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# American Cinematographer

***Waterworld:*  
The Truth  
Behind the  
Mariner's Tale**

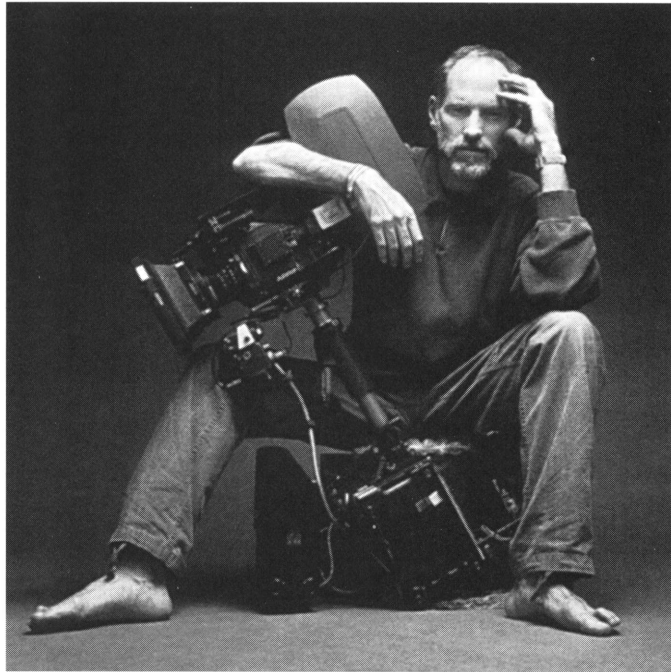
**Imagination  
Spurs  
Indian in the  
Cupboard**

***The Bridges of  
Madison County  
Prompts Rivers  
of Tears***





I N M E M O R I A M



## TED CHURCHILL

Cinematographer and Steadicam Operator



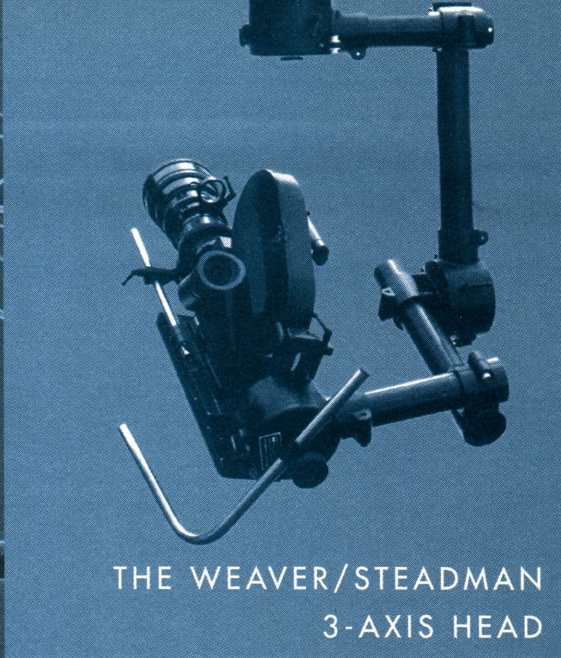


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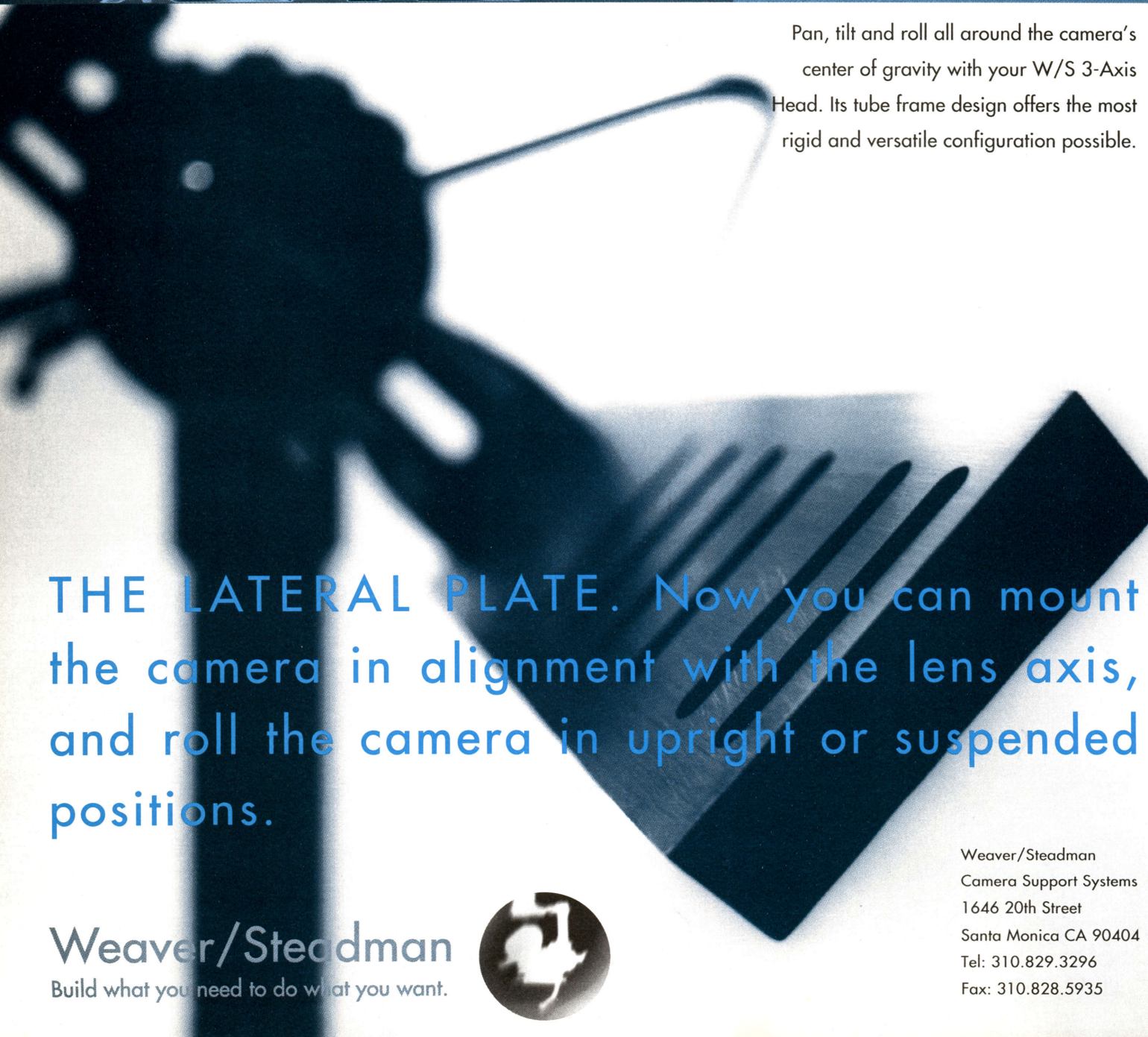


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**On Our Cover:**

Logistics were just one of the challenges confronting director Kevin Reynolds and cinematographer Dean Semler on the megabudget adventure film *Waterworld*. In this shot, the Mariner (Kevin Costner) narrowly escapes incineration with the aid of a guide wire and grappling hook (photo by Ben Glass, courtesy of Universal Studios).

**Contributing**

**Authors:**

Naomi Pfefferman  
Chris Probst





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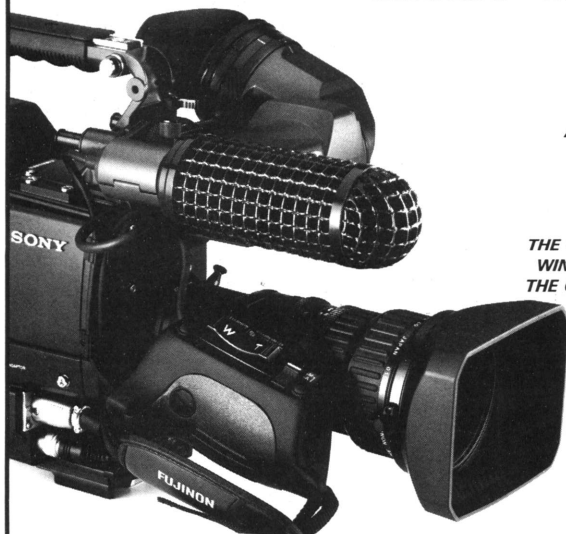
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The American Society of Cinematographers is not a labor union or a guild, but is an educational, cultural and professional organization. Membership is by invitation to those who are actively engaged as directors of photography and have demonstrated outstanding ability. ASC membership has become one of the highest honors that can be bestowed upon a professional cinematographer — a mark of prestige and excellence.

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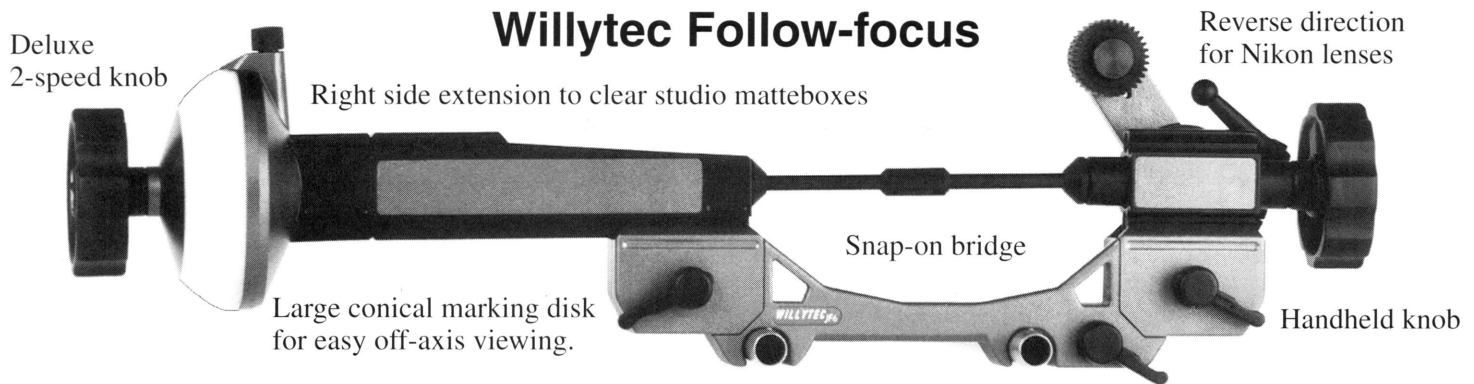
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# Theo Van de Sande ASC shot A/B comparison test footage with six types of anamorphic lens. Here is what he found:

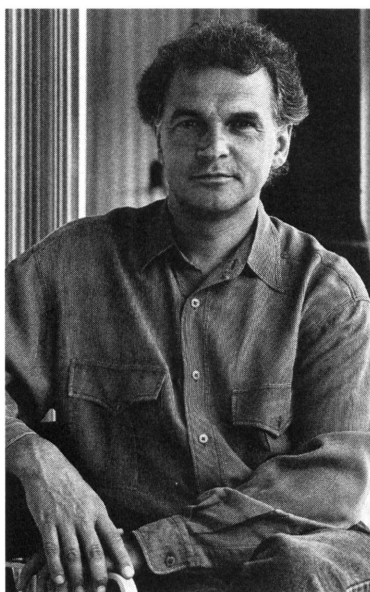
**“O**f the thirty-six features I’ve worked on as DP, three have been anamorphic,” says Theo Van de Sande. “The latest anamorphic film is *Bushwhacked*, a Fox release.”

## Lens shortage

“For about five years, there has been a shortage of anamorphic lenses. And new ones have been coming out—Arriscope and Clairmonts, the Angenieux and Cooke zooms anamorphed by Clairmont. So I decided to shoot some tests. It’s useful to know what the various alternatives are, how they perform.”

## Headlights

“I remember a night exterior in which a series of approaching headlights on high beam shone directly into the anamorphic lens. It was a wrong-way chase scene, the camera car weaving between oncoming traffic. As each set of headlights came at us, the flare created linear streaks right across the frame. The Director loved it—a more aggressive effect than the concentric flare rings you’d get with sphericals.”



“For that shot, streaks had worked. For most, they probably wouldn’t. To compare the six available types of anamorphic lens, I set up a point-source star test. Projecting the test footage, it was clear that the Arriscope produced no streaking at any stop. Wide open, the Cooke 40-400mm showed a small amount. So did Clairmont’s own anamorphic lenses, but less than the lens types I had shot the high-beam headlights with. Two stops down, there was virtually no difference in streaking among any of them.”

## Star Test

“Soon after that test, I made some long shots at dusk of a huge oil

refinery, lit by hundreds of extremely bright lights, much hotter than the ambient daylight. The refinery was too big to balance, but streaks from all those point sources would have looked very strange. In fact, I used Arriscope and there were no streaks.”

## A/B Test

“Stopping down cures streaking but not distortion or breathing, of course. To test for those, I shot A/B footage, again with the five types of anamorphic fixed lens and with the Cooke 5 to 1 anamorphed by Clairmont. I also projection-tested five of the six and put them on the bench at two rental houses.”

## Zoom edge

“One surprise for me was that the Cooke showed no edge distortion at its wide end, despite being a zoom. At 40mm, the Cooke drew a straight line better than several of the 40mm fixed lenses, but not as good as the Arriscope 40mm.”

## Circles/Ovals

“The other surprise was that the Cooke didn’t distort the center of the image when I racked



Theo Van de Sande's credits as Director of Photography include *Once Around*, *Crossing Delancy*, *Miracle Mile*, *Wayne's World* and *The Assault*, which won both a Golden Globe and a 1986 Academy Award for Best Foreign Film.

focus, despite being a modified spherical zoom! The only other lenses that *didn't* change image shapes in the center of the screen were the Arriscopes. With all the other fixed lenses I tested, a center-screen circle became an oval as it went out of focus. Some lenses made horizontal ovals, others made vertical ovals."

### Distortion

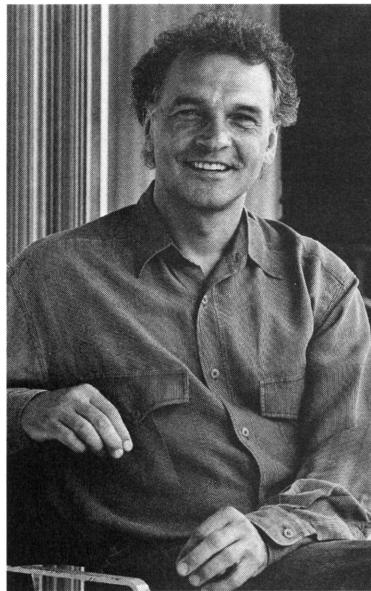
"Like the streaking, this center distortion was more pronounced in some of the fixed lenses. In two types, it was very noticeable. In two others (including the Clairmonts), it was less so. With the Cooke and the Arriscopes, I couldn't see it in the test footage. When I put the Arriscopes on the projector, I still couldn't see it."

### Breathing

"The Arriscopes didn't distort, but they *did* breathe. Every lens does that to some degree, including every spherical—it's just more noticeable with some anamorphics. My test footage of focus changes on still subjects showed the Arriscopes changing image size more than any of the others."

### Size or shape?

"But the Arriscopes were still my first choice. I was more bothered by test objects in center screen changing shape than by their changing size. I've found that whenever focus shifts substantially it's because the action moves or someone in the foreground turns around, that kind of thing. The movement masks the focus change and the size change—or it can be *made* to mask them."



### Tradeoff?

"I suppose I'm used to seeing subtle size changes on screen-tracking and unobtrusive zooming. And in real life, things change size with distance. But they don't change *shape* in real life, or in center frame through sphericals. Arriscope circles got bigger, but they were still circles. If more breathing was their design tradeoff for no distortion, I think they made the right choice."



### Orientable

"On *Bushwhacked*, our first unit had two Moviecam Compacts and an ARRI 3. Our second unit used two ARRI 3s all the time, sometimes as many as five. Clairmont ARRI 3s have bright, orientable anamorphic finders. That's one of the three reasons I went with Clairmont once again: their expertise with Arriflex and Moviecam and now with anamorphic."

### Availability

"My second reason was the lens choice and lens availability (not the same thing) at Clairmont. There's a big selection there, including some zooms and long anamorphics you can't find anywhere else. And they had enough of them to equip all our cameras. And if they said we could have a certain lens, I knew we'd get it."

### Choices

"Their anamorphic Angenieux 10 to 1 was excellent, even wide open. From T4 on down, the Clairmont anamorphics gave us Steadicam shots as sharp as our Arriscope footage. Not quite as distortion-free, but they cost us about half as much to rent and they weighed four or five times less."

### Discuss

"My third reason for going with Clairmont, then and now," says Mr. Van de Sande, "Is that I can discuss things with Denny and Terry as *filmmakers*."

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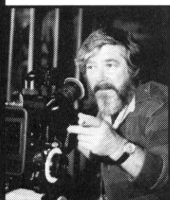
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## Letters

### Dizzy Cam Deconstructed

In the May article about *Murder in the First*, director Marc Rocco says, "As wonderful as those old movies were, they were usually simple. There was a two-shot and a couple of singles. Today, you take 16 shots to do the same thing." Am I supposed to be impressed by that?

If what you are photographing is inherently interesting, then all you have to do is record it in a simple, straightforward way and the audience will get caught up in it. And if what you are photographing isn't inherently interesting, why are you filming it in the first place? The attitude must be, "Hmmm, maybe if we shake the camera around enough and cut to a new shot every other second, we can *force* the audience to stay interested." I suspect a lot of contemporary visual style comes from insecurity on the part of the director, cinematographer, and editor. If the script, actors, and production design work are put on film with a transparent cinematic style that doesn't draw attention to itself, the audience might forget about the director, cinematographer, and editor. A flashy style is often just a self-serving way for certain people on the crew to say, "Hey, I'm here too! Don't forget about me!"

I am 30 years old, the same age as Rocco, and the more contemporary movies and television I watch, the more I appreciate the unforced elegance of many older movies. (If I see one more "zany" extreme close-up of someone leaning into a wide-angle lens, I will formally throw up.) A few issues ago, Gordon Willis quoted Longfellow's phrase, "The supreme excellence is simplicity." I'll bet most people who saw *Murder in the First* walked out agreeing.

— Joshua Dixon  
Minneapolis, MN

### Film in the Future

I would like to commend Frank Beacham on his excellent interview with

Nicholas Negroponte (AC May). Frank's interview is certainly one of the most insightful articles in any journal that I've seen in a long time (including over a dozen computer and graphics related magazines that I read).

Nicholas certainly has it right: trying to define parameters such as resolution, refresh rate (fps), and the biggie — aspect ratio — as constants is a colossal waste of time.

In fact, the inverse is true: it is the infinitely malleable software-based display that will adapt to the source material at hand. Thus, only the content (programming) and the end use of the content is important; everything else is just detail.

The forces driving this trend are many, but a new term, sometimes called "Convergence" (the merger of computers, media and communications), is certainly a significant factor.

This new technology will spawn a whole new set of visual paradigms (such as Internet access to stock footage library servers), where content, convenience and economy take precedence over camera film widths and aspect ratios.

— Jim Palmer  
EDS Unigraphics  
palmerj@ug.eds.com

### More Behind-the-Scenes Photos

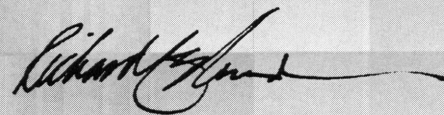
I've been a subscriber of your magazine for over two years now and I am reading it with great pleasure and interest. Since there are no comparable publications in my country available, I have to rely on magazines and literature from foreign countries, mainly the U.S.A.

Right now I'm working as an electrician in the film business and I'm very eager to learn as much as possible, not only in my practical work but also by reading any kind of publications which deal with the process of filmmaking, par-



# RICHARD EDLUND ON FILM

"We are phasing in a virtual studio environment at BOSS which enables directors to interact more viscerally with the soul of the image. They can have a direct influence on the outcome in an inter-active, collaborative environment. One example is a three-dimensional creature we created for *Species*. She interacts with the actors and the environment in very complex visual sequences. The possibilities are infinite, but it's a very subtle and elegant art. In essence, less is more. We show the audience most of what they want to see and allow them to fill in the rest with their own imaginations. Digital technology has given us the freedom to manipulate images which were previously unbendable. It's like learning a new language or adding a new gender to the grammar of film. There aren't any unbreakable rules. You have to trust your instincts. That's why it's an art. Our goal is to make the use of this technology so accessible that it becomes part of every director's repertoire."



Richard Edlund is president of Boss Film Studios. He earned Oscars® for *Star Wars*, *The Empire Strikes Back*, *Raiders of the Lost Ark*, and *Return of the Jedi*. His other visual effects nominations include *Alien 3*, *Die Hard*, *Ghostbusters*, *Poltergeist*, *Poltergeist II* and *2010*. His current project is *Species*.

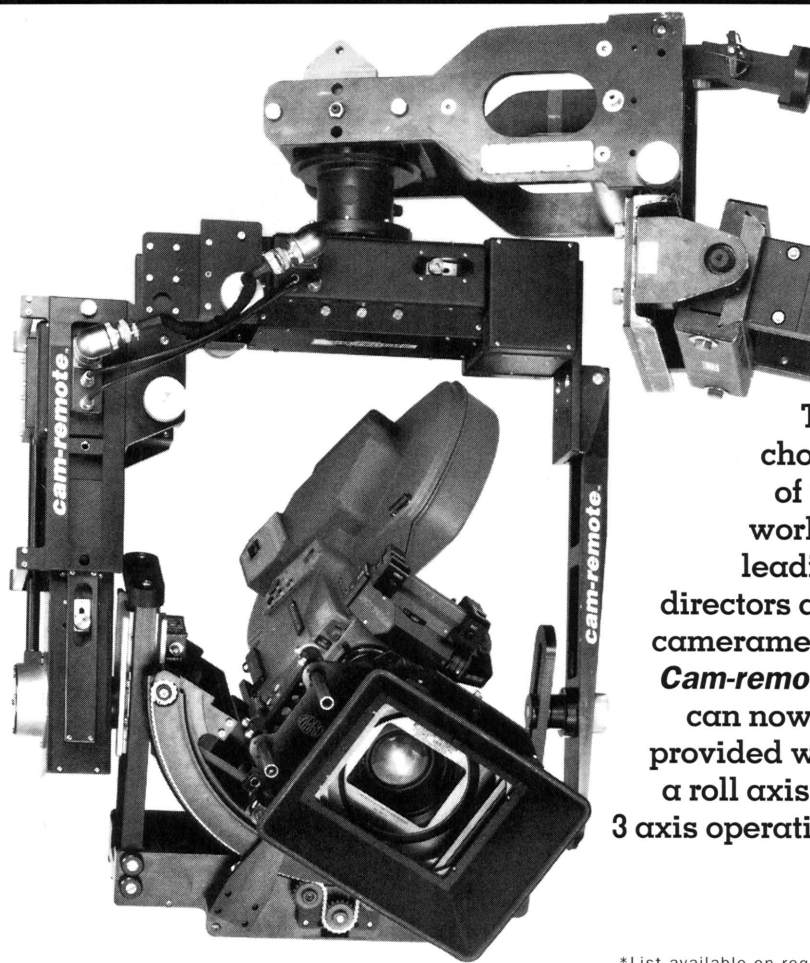


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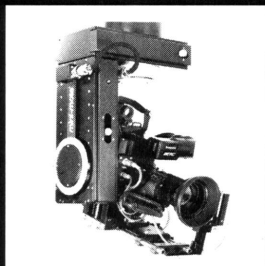
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ticularly lighting. Your magazine is the only one I know which enables young filmmakers in any part of the world to learn something about cinematography from the "big ones."

Although your articles contain a very high level of information, I have to admit that I'm bothered by the selection of photographs that accompany these articles. Most of them are still pictures that can be found in every ordinary film magazine or in any publication that is reviewing a certain film.

In my view there are too few "behind-the-scenes" stills which show the elaborate sets, complicated riggings or the unique and sometimes unusual methods of lighting employed to accomplish a certain shot. These kinds of pictures contain more information than one might think. Don't get me wrong. I do not say you don't have them in your issues, but there should be more of them. And as a magazine committed to the art of cinematography I think it is important to focus more on the technical side in your pictures, which enables readers (particularly foreign readers) to understand the articles more thoroughly. You can do this also in the form of sketches or drawings, as you do occasionally. Sometimes a picture tells more than a thousand words.

— Marc Perino  
Hemsbach, Germany

Dear Mark: Although the magazine runs as many behind-the-scenes shots as possible, we generally must rely upon photos provided to us by movie studios and publicists. In the future, however, we are planning to run more sketches and lighting schematics for your perusal. —Ed.

Please send any comments or suggestions to Letters to the Editor, *American Cinematographer*, P.O. Box 2230, Hollywood, CA 90078. We also welcome information on new products or noteworthy projects, developments or collaborations; please direct such material to the attention of the Assistant Editor.



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Lawn Mower Man II  
Losing Isaiah  
Money Train  
Murder in the First  
Nell  
Nine Months  
Primal Fear  
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# Coastlines Captured.

Producciones ICM - Volkswagen Polo  
San Sebastian, Spain - :30/:60 Regional Spots  
Helicopter Aerial - Wide beauty shot to tight closeup



# Effects Stabilized.

Buena Vista - "Judge Dredd" - Los Angeles, California, U.S.A.  
CGI background plates - Camera Car - Wescam modified to  
accept Photosonic Camera, enabling 120 FPS operation



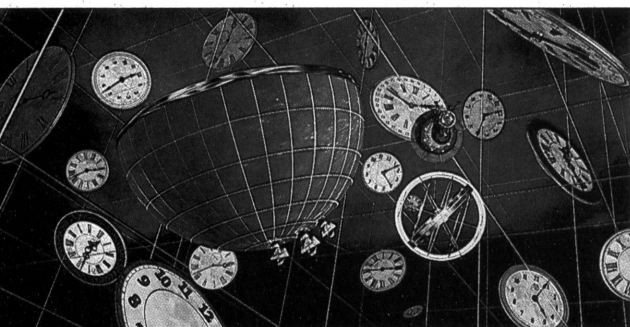
# Seas Calmed.

Universal - "Apollo 13" - Malibu, California, U.S.A.  
Feature - Boat - Tight shot of the astronauts emerging safely  
from the capsule after splashdown



# Special Venue Field Still Expanding

compiled by Marji Rhea



**Rhythm & Hues' 3-D contribution to the MGM Grand Hotel's time-travelling stage show.**

### 3-D Las Vegas Extravaganza

Rhythm & Hues has created a 3-D film for the MGM Grand's stage show *EFX*, a surreal journey through time and space starring Michael Crawford. The company's contribution to the show is a two-minute, 70mm film where history, music, and time images materialize in 3-D. "We wanted certain things to really fly off the screen," says R&H producer Ellen Coss. "So we did the 3-D stereoscopic work with the latest computer technology, along with proprietary software [written by R&H programmer Paul Allen Newell] to render two completely natural camera perspectives. This combination of hardware and software allowed us to test the effect again and again, maintaining the ability to go in and change things so that the 3-D really works and the film's director [Bruce Schluter] obtains the desired result."

Crawford plays a mysterious master of ceremonies leading the audience into four distinct "worlds beyond your imagination." During the show, the actor also portrays various real and fictional characters, including legendary sorcerer Merlin, circus proprietor P.T. Barnum and illusionist Harry Houdini. The show segues into R&H's 3-D film when Crawford, playing the role of sci-fi author H.G. Wells, gets into his time machine as the set breaks apart behind

him. The audience then puts on their "protective shields," which are really 3-D glasses, and gets ready to view the 70mm large-screen film.

"3-D is challenging in that the audience only sees two minutes of film, but we have to render and output four minutes of film, one for the left eye perspective and one for the right," says Coss. "It's a lot of work, but it's worth it because what you end up with is not just a film, but a thrilling experience for the audience."

Rhythm & Hues technical director Georgia Cano utilized a technology called CrystalEyes (LCD-operated 3-D glasses) to preview the 3-D images, some of which were created in the computer and some shot live on-stage. R&H director Lorne Lanning was responsible for blending the live action seamlessly into the rest of the footage while carrying out Schluter's overall directorial vision for the film. "We got the preliminary stage designs and we built the database in the computer," says Lanning. "Because we did that, we were able to have our computer-generated time machine and Michael Crawford's stage time machine match."

"We shot the live-action elements with stereo cameras," adds Lanning. "Therefore, the left eye would see one image and the right eye would see another image. Then we would scan that into the computer and composite the left eye over the left eye's background and the right eye over the right eye's background. Any imperfections we found were corrected in our digital compositing system to make sure the 3-D was correct and we got the look MGM wanted."

The \$40-million stage and screen show is directed by Scott Faris, whose credits include the multimedia *George Lucas' Super Live Adventure*, currently running in Tokyo, and *Siegfried*

& *Roy*, running at the Mirage Hotel. The show also includes a cast of 70 actors, and features an 85,000-watt sound system housed in the show's permanent home, MGM's 1700-seat Grand Theatre.

Rhythm & Hues, 910 N. Sycamore Ave., Hollywood, CA 90038, (213) 851-6500.

### DreamWorks and SGI Collaboration

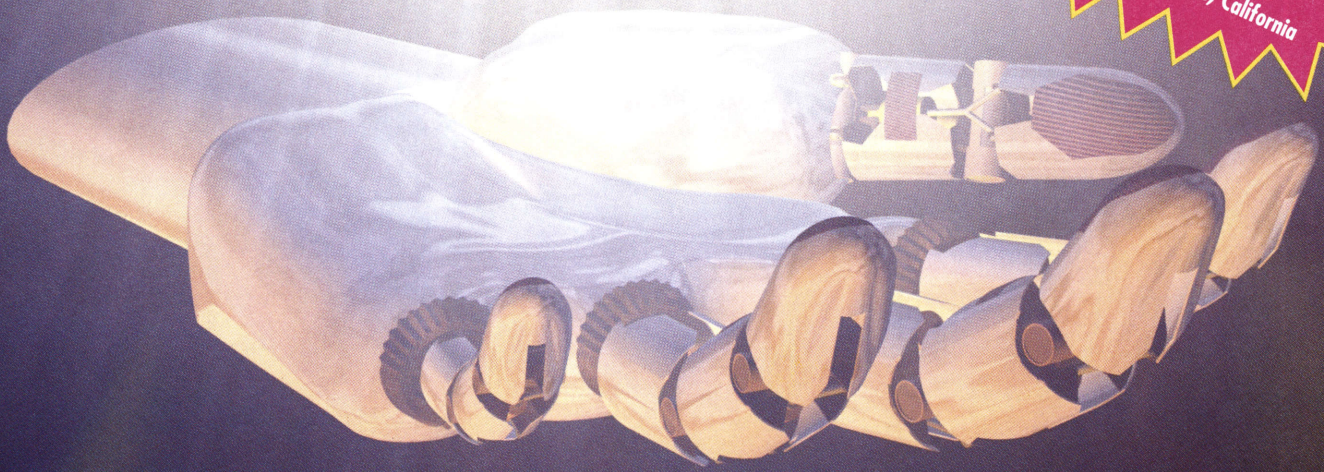
DreamWorks SKG and Silicon Graphics, Inc. have announced the development of the DreamWorks Digital Studio, a digital creative, production and asset-management system. The deal includes the creation of a computer-animation production system, DAD (Digital Animation Dreammachine), which will be supported by Silicon Graphics in alliance with Cambridge Animation. DreamWorks and Silicon Graphics expect to jointly fund approximately \$50 million in development costs and related hardware and software systems.

Led by the DreamWorks technology group and Silicon Graphics' entertainment subsidiary, Silicon Studio, Inc., the team will build a system for creating and managing creative content. The studio will be used initially for the needs of DreamWorks' first full-length animation production and later in aspects of feature films, television, interactive products and music.

The studio will be designed as an open network available to third-party hardware and software vendors. Silicon Graphics will install its Onyx graphics supercomputers, Indigo2 workstations, Indy desktop workstations and Challenge servers into the heart of the system. Cambridge Animation has been selected to provide the key cel animation component of the network and will port its Animo 2D software to the DAD system as part of the agreement. This unique soft-



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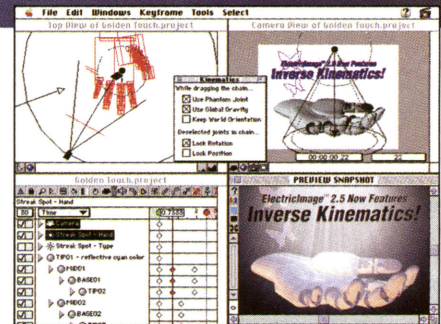


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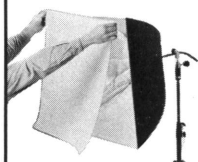
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ware will allow filmmakers to draw from a wide spectrum of visual styles, production tools and animation techniques. The new studio will feature an advanced digital content creation system, encompassing multimedia content and high-speed networking.

While this collaboration originates with DreamWorks, all products and technology developed under the agreement between DreamWorks and Silicon Graphics will be available to the entertainment industry as standard Silicon Studio products.

Silicon Graphics, 2011 N. Shoreline Blvd., Mountain View, CA 94043-1389, (415) 390-2019.

## **StereoGraphics and ImageWorks Join Forces**

StereoGraphics Corporation, maker of CrystalEyes stereo visualization products, and ImageWorks Corporation of Bedford, NY have formed an alliance to share technology and creative output. CrystalEyes products utilize 3-D stereo imaging to improve and dramatize viewing for a broad range of user needs, from scientific to entertainment applications. ImageWorks creates 3-D visualizations and animated walk-throughs for use in feature film and commercial spot production. This ability affords film directors and other creatives the opportunity to pre-visualize film sets prior to filming. Using CrystalEyes eyeware for Macintosh, PC and SGI platforms, ImageWorks will benefit by being able to enhance its output and offer clients new opportunities for visual expression.

As a result of the collaboration, StereoGraphics will have new creative output for use at trade shows and for sales demonstrations to highlight StereoGraphics' product line. ImageWorks will also serve as a New York facility to provide demonstrations for customers interested in purchasing CrystalEyes systems.

ImageWorks, 35 Sherwood Ave., Ossining, NY 10562, (914) 234-7306, 72147.2143@compuserve.com.

## **Tokyo Expo Simulator Ride**

SimEx Inc. has signed a contract with NHK Enterprises to create the *Tepco Energy Odyssey*, a 200-seat simulation experience for the Tokyo Electric Power Company Pavilion at the 1996 Tokyo World City Exposition. SimEx will

install three 45-seat electric motion simulators in a 23-meter dome theater.

The three-minute, 45-second space adventure film will be produced by SimEx's digital effects facility in Los Angeles and will be created almost exclusively with computer graphics. "We'll be using the large format 10-perf/70mm film, which has superb resolution," says Allen Yamshita, SimEx's creative director. "Projecting the film on the 23-meter domed screen will create a totally immersive audience experience."

Motion programming also plays a critical role in involving the audience in the presentation; every simulator movement must be programmed to reflect the action which appears on the film. "We designed the motion into the film in the concept stage," explains Michael Needham, president of SimEx. "Our electric simulators are a tremendous improvement over hydraulic systems in terms of quietness and ease of operation. They are much more responsive than hydraulic systems, which allows for both subtle and extreme movements when required."

SimEx is also responsible for *Tour of the Universe* at the CN Tower in Toronto, one of the first entertainment attractions to adapt flight simulation to the entertainment market. The company's most recent projects include *Destination Jupiter* at NASA's U.S. Space and Rocket Center in Huntsville, AL; *Tour of the Universe* at the City of Science and Industry, Le Parc de la Villette, Paris; *Sea Trek* at Ontario Place; and *New York Skyride* at the Empire State Building in New York City.

SimEx Digital Studios, 30423 Canwood Street West, Suite 215, Beverly Hills, CA 90210, (310) 246-0213, (310) 276-6607.

## **Internet Film Broadcast**

First Look Pictures Releasing and its parent company, Overseas Filmgroup, have made one of the first worldwide broadcasts of a full-length feature film over the Internet. The film, the independent comedy *Party Girl*, premiered June 3rd simultaneously at the Seattle International Film Festival and over the Internet in a live transmission. The film was theatrically released on June 9th.

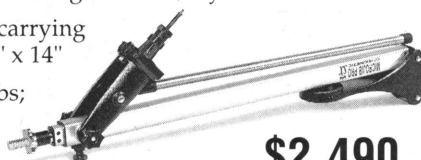
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broadcast with technological assistance from Apple Computer, Silicon Graphics, and Serve.Net, a Los Angeles-based Internet consulting firm. Coordinating the technical side and providing the bandwidth in Seattle were Film.com, Point of Presence Company and Interconnected Associates.

Depending on their location and method of Internet connection, individual computer users were able to view the entire movie in a black-and-white format which also included full audio if their computer supported it.

"Everyone's talking about the digital entertainment revolution, but, ironically, no major player has been willing to jump in and be a pioneer," says M.J. Peckos, senior vice president of First Look Pictures Releasing. "At this stage, we see this as opening up a whole new phase of motion picture marketing, using the Internet as a tool not only to disseminate information but to get people really talking about a film."

First Look Pictures, (310) 855-1199.

#### Distribution Deal for Large-Format Films

BRC Imagination Arts, producer of entertainment-oriented attractions for theme parks, expos, aquariums, visitor centers and museums worldwide, has announced distribution and exhibition deals for two of the company's multi-award-winning, large-format films.

BRC's *Flower Planet*, the largest-format, cel-animated film every produced, will be distributed to Imax and other large-format film theaters worldwide during 1995 by Destination Cinema of Ogden, UT. Originally produced by BRC for the Mitsui Group for exhibition during the 1990 World's Fair in Osaka, Japan, *Flower Planet* depicts an enchanting fairy tale illustrating the importance of teamwork and harmony for the creation of a better world. It was created with the collaboration of some 320 artists and craftsmen, incorporating over 50,000 separate drawings.

BRC has also announced that it has made a two-year exhibition deal for its 70mm film *Rainbow War* to be exhibited as a major film attraction at Port Aventura in Salou, Spain. *Rainbow War* is the only World's Fair film in the last 20 years to be nominated for an Academy Award in the Best Live Action Short Film

category. Originally produced by BRC for Canadian Pacific Ltd. for the Vancouver, Canada 1986 World's Fair, *Rainbow War* takes a lighthearted look at three imaginary kingdoms, one blue, one red and one yellow, that engage in a colorful battle for supremacy. In so doing, the kingdoms create the first rainbow, which results in new friendships and understandings among the warring nations.

BRC Imagination Arts credits include design and production of NASA's Space Center Houston visitor center, General Motors' transportation showcase at Epcot Center, *The Magic of Disney Animation* tour at the Disney-MGM Studios theme park, and *Mystery Lodge*, a BRC Holavision 3-D Theater attraction at Knott's Berry Farm in Los Angeles.

BRC Imagination Arts, (818) 841-8084.

#### 3-D Television and Film System

The 3D America Envista television system, tested last May on the Fox network, requires only one channel of information to create 3-D television and is completely compatible with all existing television broadcast systems worldwide, including the European PAL standard. The system also requires no restricting production equipment, other than a detachable camera lens device, for producers to tape their film, video and live television programs in 3-D. Besides offering startling visuals, Envista will eventually render conventional 3-D glasses obsolete for television viewers. The system already increases the viewer's visual clarity and depth by 40%, even without special eyewear.

3D America also offers a proprietary technology that allows all theatrical films to be exhibited in movie theaters in full 3-D. This allows companies an opportunity to upgrade entire libraries of film and animated features into three dimensions with minimal investment.

3D America, (818) 846-6062.

#### AT&T Ridefilm at Epcot

Keith Melton of Infinity Filmworks has completed directing the live-action portion of AT&T's newest ridefilm. Executive produced by Iwerks Entertainment, *Ride the Network* will be part of a simulator attraction appearing at AT&T's Pavilion in Walt Disney



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World's Epcot Center. The ride is also planned to be featured in HDTV.

The AT&T Pavilion at Epcot Center consists of a number of interactive and informative exhibits demonstrating AT&T's present and future technology. Central to the exhibit is *Ride the Network*, which is the first stop for visitors to the pavilion and uses graphic images and dramatic storytelling to demonstrate how the AT&T telephone network functions and what consumers can expect in the near future. It tells the story of Cassie, a high-school teenager on a class visit to the AT&T Knowledge Network. The film opens with her touring the facility with her class. After entering a room marked "Do Not Enter," Cassie is digitized into the AT&T Network. The ride begins here as a computer-generated journey from Cassie's point of view. She flies through AT&T's fiberoptic network on an animated talking skateboard, and in her attempts to go to Hawaii via the network for the national surfing championship, she encounters many electronic adventures. While traveling along an underwater fiberoptic cable, she is almost attacked by a shark; she becomes part of a Western movie as it is delivered over the phone lines; and she is transmitted via satellite to Japan, where she becomes part of a Japanese/UK teleconference. And finally, she encounters a "tidal wave feed" which takes her to Hawaii and the championships.

The entire POV segment of the film coincides with the tactile portion of the ridefilm, as the room which houses the attraction moves in sync with the film. The room itself is tube-shaped and approximately 11 feet long by eight feet in diameter. The AT&T Pavilion has nine such rooms and each holds four people. The tube has been constructed to move 15 degrees in either direction and all moves are preprogrammed. The NTSC video image is rear-projected onto one end of the tube — the first segment of the film fills a rectangular space whose corners touch the circumference of the tube and the POV segments fill the entire circular wall. "Ride the Network" will also be featured in HDTV as a part of Iwerks' traveling Rock Motion Theaters.

Most of the footage filmed by Melton is used as bumpers which precede and immediately follow the animated ride portion of the experience. "This job was particularly interesting to

shoot because of the integration between the filmed and computer-generated action," commented Melton. "When Cassie first enters the network, we need to transition from one world to another — which involves switching from live-action film to CGI, third-person perspective to POV, and rectangular projection to circular. In addition, any transition has to be realistic looking yet take enough time to be informative to viewers.

"I first shot the live-action using Ultimatte blue elements where the computer graphics would be placed. Ex Machina, the France-based computer graphics company, took our film footage from the beginning of the transition [which starts when Cassie first opens the door] and digitized it into their system. They then incorporated the computer graphics with the filmed elements at a high-enough resolution for video as well as HDTV."

All the footage had to be digitized at the appropriate size to account for the fact that the opening film segment occupies a smaller portion of the wall than the ultimate POV sequence. "Also, to account for the smaller screen in the beginning sequence," continued Melton, "I shot the entire opening TV-style utilizing a lot of medium and close-up shots."

Infinity Filmworks, (213) 851-7788, FAX (213) 851-2612.

### Projection System

Iwerks Entertainment had developed a new film projection system which surpasses the image quality delivered by high-definition video systems currently used in smaller venues. The Iwerks Quatro (I.Q.) 70mm reversing projector, which debuted at the TILE Technology Conference in Holland in June, will be packaged and marketed as a projection component of Iwerks TurboRide simulation attractions. The I.Q. projection system provides image quality rivaling that of Iwerks' 870 large-format projection system. Once limited to video and laser disc projection, smaller theaters will now have access to an affordable and higher-quality alternative.

By printing two 35mm simulation films side by side on one strip of 70mm film, four films can be printed on one reel. After projection of one film, the



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Iwerks, (818) 840-9605,  
vwsla@aol.com.

### Empire State Building Ridefilm

Empire Productions, the sister company of post house Chromavision, completed in December the production of *Skyride*, the first major motion simulation ride in the Big Apple. Produced for Skyline Multimedia Entertainment, the ride is located in the Empire State Building. Twin theaters, each seating forty on moving platforms, will be vying for the attention of the 2.8 million tourists who visit the building every year.

Seven minutes of live action — aerial, ground and underwater views seen at breakneck speed — feature a kaleidoscope of shots of New York: the Cyclone at Coney Island, South Seaport, Central Park, FAO Schwartz, Wall Street, sharks at the Aquarium and more. *Skyride* is one of the few motion simulation rides to feature actors and a story concept. James Doohan (Scotty on *Star Trek*) and comedian Yakov Smirnoff are hapless crewmates on a spaceship run amok in Manhattan. *Skyride* also has incorporated LCD screens placed on the backs of the audience seats to give the viewers a glimpse into the bridge of the spacecraft.

Researching the project, producer David Lenik and director Walter Schlomann traversed the country checking out every motion simulation ride that exists. What they saw were various configurations of animation, models and stop motion, and live action, i.e., a camera strapped to a train going ninety miles an hour. Most rides lasted three or four minutes and few featured live-action characters or a storyline.

Director of photography Jim Dixon, known for his work on *2001: A Space Odyssey*, *Tron*, and Doug Trumbull's *Luxor*, created a number of new camera rigs to film daredevil shots. To shoot Wall Street, for example, he went five stories up with a Lenny Arm and a Titan Crane. Dixon shot on Super 35 with an Arri and video assist, keeping

in mind the unusual square format of the projection screen (18 feet by 18 feet).

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### Daytona Racing Film

Dream Quest Images is producing a film to be the centerpiece of a new visitors center at Daytona International Raceway at Daytona Beach, Florida. The film is an up-close, behind the scenes look at the crown jewel of NASCAR racing, the Daytona 500.

The format they chose for projection is 70mm 5-perf at 48fps. DQI co-founder Hoyt Yeatman chose the higher frame rate because it eliminates the apparent strobing and other artifacts of projection at 24 or 30fps. Since the film is about speed, Yeatman felt that it was mandatory to take advantage of the enhanced image quality gained by shooting and projecting at 48fps. Yeatman and DQI director Robert Carmichael tested 65mm, 35mm anamorphic, and Super 35 formats, blowing them up to a 70mm release print, before determining that Super 35 would give them the look they wanted and the flexibility to shoot with up to 21 cameras simultaneously.

Director of photography Ward Russell used his considerable experience in filming stock car racing during Daytona's *Speedweeks 95* last February, when his crews shot more than 205,000 feet of film at 48fps. On the day of the Daytona 500, the crew numbered 95 people, including two video crews shooting material for the pre-show program. Follow-up shooting of close-ups and inserts was done in late June, when the racetrack was closed to the public.

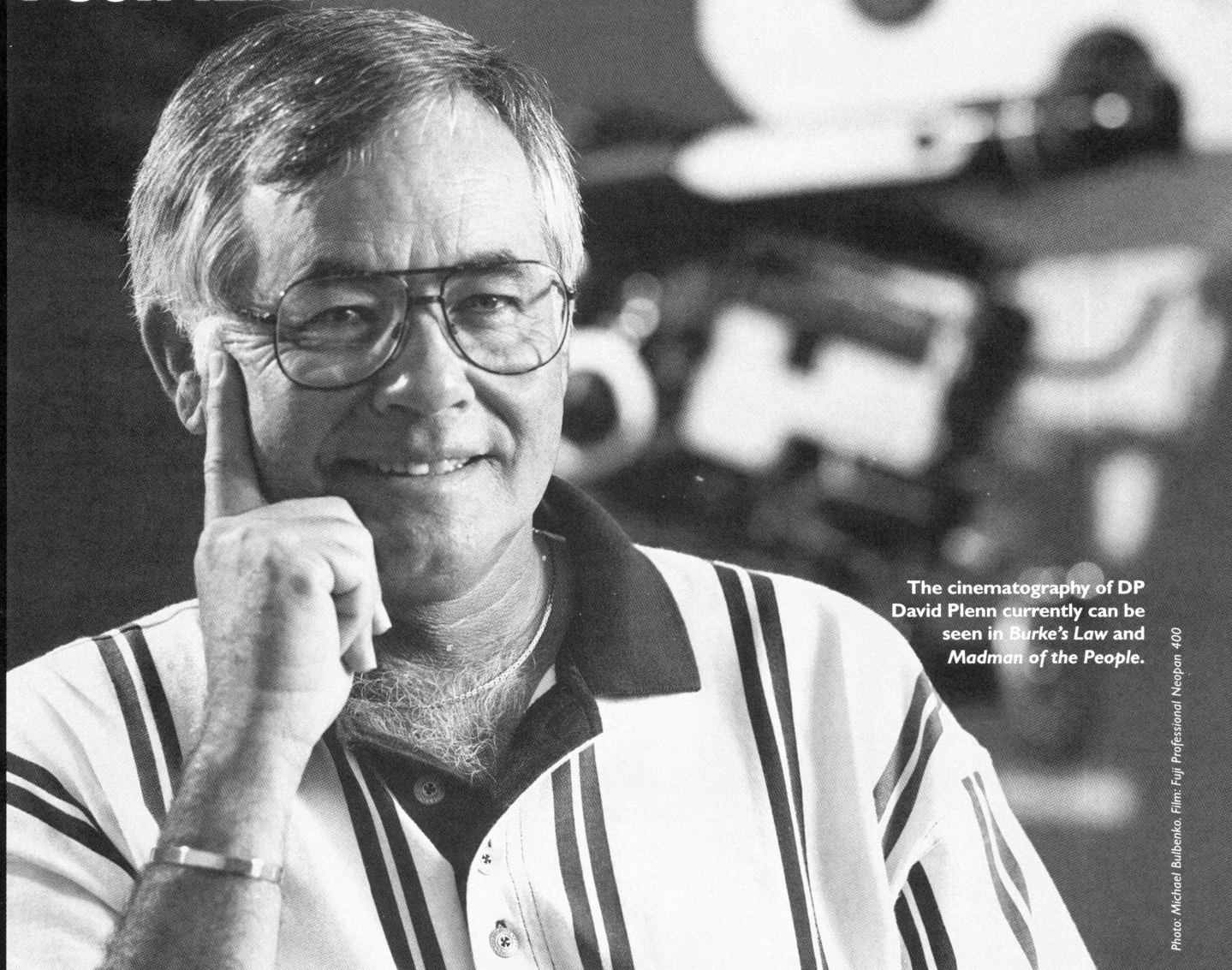
DQI's producer for the project, Mitch Mentor, spent several months in Daytona Beach handling the massive logistics for the shoot, which included getting the FAA to suspend commercial air traffic at the Daytona Beach airport long enough to allow helicopter photography of the crowds at the raceway, which is located adjacent to the runway.

The film will premiere at Daytona USA, a multi-million dollar motorsports attraction opening at Daytona International Speedway next summer.

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The cinematography of DP David Plenn currently can be seen in *Burke's Law* and *Madman of the People*.

Photo: Michael Bulbenko. Film: Fuji Professional Neopan 400

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# IMAX Takes Flight

*Wings of Courage* becomes the first dramatic film shot in Imax 3-D.

by Brooke Comer

In Buenos Aires, Argentina, circa 1913, three French aviators — Jean Mermoz, Antoine de St. Exupery (later renowned as the author of *The Little Prince*) and Henri Guillaumet — made history by flying mail from France to South America across the treacherous Andes mountains. *Wings of Courage*, a cinematic visit to this romantic age of aerial derring-do, stays true to the pilots' pioneering spirit by making its mark as the first dramatic film shot with the Imax 3-D system.

Starring Val Kilmer as Mermoz, Tom Hulce as de St. Exupery, Craig Sheffer as Guillaumet and Elizabeth McGovern as Guillaumet's wife, Noelle, *Wings of Courage* offers a gripping tale of one man's triumph over the elements. In the film, Guillaumet's biplane crashes on a frozen lake, leaving him little hope of being rescued alive. But he struggles through rugged terrain out of love for his wife, realizing that if his body is found, she can collect on his life insurance.

The film was produced by Charis Horton and Antoine Compin, directed by Jean-Jacques Annaud and photographed by cinematographer Robert Fraisse. Recounting this trailblazing Imax experience, Annaud says, "I've always been fascinated with people who were the first to do something. In the early days of aviation, most people regarded airplanes as technological curiosities with no practical application. Only a few pioneers believed that airplanes could be used to carry mail and people. Almost everyone thought they were mad."

Annaud faced a similar skirmish with skeptics when he tackled *Wings*. "Even the technicians at Imax were not very optimistic," he admits. "They told me I'd be lucky if I got one setup per day, and they were right. But on lucky days, I could get up to nine setups." In the end, the filmmakers averaged about four setups a day.

The director concedes that he was initially hesitant about us-



ing 3-D. "The 3-D movies I'd seen years ago made a poor impression on me," he reveals, "mainly because they were not devised to tell interesting stories but to throw scary props into the eyes of the audience." Cheap glasses, poor illumination, unsteady cameras, and weak scripts gave 3-D its reputation as low-budget sci-fi fare. But the marriage of Imax and 3-D created exciting visual potential.

*Wings of Courage* began production with two camera systems: Imax's new high-tech Solido, and a gyroscopic rig designed by Canada's National Film Board which holds two Imax cameras from the top on gyro-stabilizers, running in sync electronically. "But because the cameras kept breaking down," says producer Charis Horton, "we brought in an Imax rig that we called 'the big rig,' which also holds two Imax cameras." Both the Imax and NFB rigs run two strips of film simultaneously, with two lenses spaced about as far apart as a pair of eyes.

A single 2-D Imax camera was also brought in as a backup. "You lose 3-D effect at about 50 feet," says Horton, "so we used the 2-D Imax for the few aerial scenes. We just printed the single eye twice."

The Solido's fisheye lens initially posed a problem, because it captured a 150-degree field of vision — so extensive a range that the cameraman could see the rig. Engineers solved this problem in the latest Imax 3-D camera, which uses side-by-side lenses to shoot both Solido and regular Imax 3-D two-film movements inside a single housing. The image viewed by each lens reflects off a mirror and onto the unexposed film.

Annaud was convinced that he'd found his ideal camera. The dual filmstrip camera was about a third smaller than its predecessors, which made it more manageable on location in the Rocky Mountains north of Banff National Park in Alberta, Canada. But the Imax developers were still unsure that the system could handle the rigors of a feature film. "I believed in the Imax format as a great tool," says Annaud. "I wanted to make the first Imax 3-D dramatic feature, and I wanted to

do it on top of a mountain, in high winds and bitter cold. I wanted to bite the bullet."

Annaud had already bitten the bullet years ago when he gave up commercial work, at the height of a successful career, to find more fulfillment directing features, "following the work that was true to my heart." He'd made over 500 commercials in eight years, "which I felt was both good and extremely dangerous. As a commercial director, you learn to direct actors and place a camera. But you don't learn how to tell a story. You learn how to be superficial."

By age 27, Annaud was in the middle of a deep depression. "I had everything. Money, success, a lovely home, a wonderful wife and child. But I was so depressed I often found myself shooting with tears in my eyes." He decided to stop shooting spots, and concentrate only on "things that would mean something to me. I became

Annaud calls his first feature, *Black and White in Color* (based on his experiences in the African colony of Cameroon), "too expensive and a failure," yet it won critical acclaim around the world and earned an Academy Award for Best Foreign Film in 1977. "I was smart enough to not run straight to Los Angeles," the director says wryly.

Intrigued by the challenge of making a movie with no language dialogue, he directed *Quest for Fire*, which garnered French Cesar Awards for Best Director and Best Movie. His next film, *The Name of the Rose*, won another Cesar for Best Foreign Film. He picked up his fourth Cesar for Best Director after *The Bear*, and then went on to shoot *The Lover*.

Annaud's wife, Laurence, found Guillaumet's story in an issue of *Icare*, a French aviation magazine, and brought it to her husband's attention. Recognizing

the story's potential as a film, he immediately set out to do his research. He flew to Argentina, found the crash site, and followed Guillaumet's trail to safety. The timing was propitious: Annaud had just signed a three-picture

deal with Sony Pictures Britannia, a Sony Pictures Entertainment Company, to write, produce and direct movies for SPE's Tri-Star Pictures.

When Sony executives told Annaud that Charis Horton and Antoine Compin would be producing *Wings*, he burst out laughing; Annaud had known the pair for years, and realized that they were a perfect fit. Renowned for their special-format work, Horton and Compin have shepherded most of Disney's 360-degree shows. Twenty years ago, when the duo were producing commercials in France, Annaud had directed such memorable spots as "Coke International" for them. "The problem with this kind of format," says Horton, "is time.

**Opposite: A 1930s-era Potez biplane stands before the snow-capped Rockies on the icy Alberta location of director Jean-Jacques Annaud's Imax Solido 3-D feature, *Wings of Courage*. Below: The gyroscopic rig built by Canada's National Film Board cradles the twin, cold-proofed, 15-perf, 65mm Imax cameras.**



Photos by Doane Gregory, courtesy of Sony Pictures Classics

broke," he says with a grin, "but happy."

Annaud found it harder to get out of commercial work than it had been to break in. He'd gotten his first directing job easily, when he was fresh out of France's prestigious Institut des Hautes Etudes Cinematographiques. He quickly became one of the stars of the European market, along with Ridley Scott, Adrian Lyne, Alan Parker and Hugh Hudson. When he decided to leave the business, Annaud published an ad in a local trade paper to announce that he was no longer available to shoot spots. He immediately received a hundred phone calls. "Everyone thought it was a very clever ad," he recalls with irony.





**Above:** *Annaud stands before cinematographer Robert Fraisse as they prepare the 228-pound, crane-mounted Imax Solido for a simulated-flight biplane shot. Composed of two cameras running in electronic sync, the Solido proved problematic, but Annaud felt the results were well worth it. Right:* *Downed pilot Henri Guillaumet (Craig Scheffer) must cross the Andes on foot to survive — a compelling human drama Annaud believed large-format 3-D would help convey.*

You need a special director like Jean-Jacques, who can devote long-term energy to the project."

Horton and Compin were used to confronting untested formats, having forged new horizons on Jules Verne's "From Time to Time," a 360-degree time-travel show for EuroDisney. "That project had nine cameras," recalls Horton. "We're used to awkwardness. *Wings* was different, in that nobody had done anything like this. We had to work without knowing what the results would be."

Annaud began his work by traveling to Vancouver and Montreal to view demo reels shot with Imax 3-D from a frame ten times larger than 35mm. He knew that he wanted *Wings* to focus on Guillaumet's struggle to survive, but he didn't immediately connect the new Imax technology to the project. "I wanted to tell the story of this humble man, who did an extraordinary thing for one reason: he loved his wife. A few weeks after I'd screened the new Imax system, it clicked. I understood that this was the perfect format in which to tell that story."

Annaud was convinced that the new format could enhance the drama of human emotion. "People think Imax 3-D is only good for shooting rats, birds

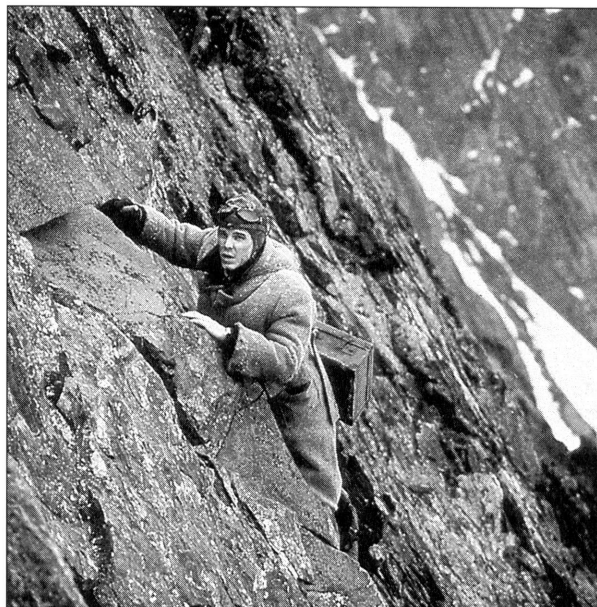
and waterfalls, but nothing human, nothing emotional. To me, it's difficult to express the true dimension of nature in 35mm. Something gets lost. A mountain looks flat. You don't get the harshness, the vertigo, the wind. But on the new system, it's amazing." He believes that Imax 3-D can do for human nature what it's already known to do for physical nature. "It's especially hard to show the ridiculous size of man against the immensity of nature on a small flat scale with poor resolution," he says.

Before production began, Annaud shot a week of tests on a 16,000-foot mountain near Telluride, Colorado. He brought the brand-new Solido, fresh out of the laboratory, as well as the Imax rig and a split 65 camera. The eight-minute demo reel he put together from three days' worth of work convinced everyone that the system was viable.

It may have been viable, but it wasn't cheap. The cost of operating an Imax system varies per shooting day, and though the producers won't say how much the camera rental cost, they admit that the entire project cost over \$13 million. A million dollars of the budget went into optical work alone, to create stars in a dark night, snowflakes, flares, lightning, and titles on a total of 48 different shots.

The cumbersome cameras were too heavy to move without helicopter assistance. The Solido, with a complete load, weighs about 250 pounds, and the two rigs, with all the ancillary equipment, weighed in at about 350 pounds. "It took three hours to set up," says Annaud. "If you set up and then change your mind, you lose your day."

He also found out that the new cameras were still in an experimental stage, and that they broke down daily. The dual-lensed Solido required special attention. "If you have the slightest focus maladjustment, or lack of synchronization between the two lenses, the shot is ruined," Annaud points



out. "In 2-D, if one lens isn't in perfect alignment, no one cares. In 3-D, it's a disaster."

Technical problems weren't the only challenge. Inclement weather threatened to strand the filmmakers on the mountaintop. "Conditions were so rigid that we had an emergency



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base camp at the top of the mountain," says Horton. "There could have been an avalanche on any given day."

Equipment had to be moved by helicopter, even over short distances of 500 feet, to keep the snow pristine for the wide-eyed lens. "The helicopter logistics required a small army," says Horton. "But fortunately, we picked our crew members from films like *K2* and *Alive*, and they like to work in these kinds of conditions. On their days off, some of the grips would go mountain climbing — as if they hadn't had enough of the snow."

Annaud chose fellow Parisian Robert Fraisse to be his director of photography. "I needed someone technically oriented, who knew how to light big sets, who was physically fit, and who was always in a good mood. When you're shooting in the middle of nowhere, and half the crew is sharing one shower and you're working 12 hours a day in -20° weather, you really want your cinematographer to be good-natured."

Fraisse had shot many of Annaud's commercials years ago, but the two didn't meet again until 10 years later, when Fraisse shot *The Lover* for his old friend. That picture earned the cinematographer an Academy Award nomination.

"Working in 3-D is very different from 35mm," Fraisse observes. "Because the camera is so bulky, every operation takes ten times more out of you than a 35mm camera would." When everything went well, Fraisse was able to reload a 1,000-foot magazine, which holds three minutes of film, in 20 minutes.

"When you start shooting an Imax movie," Fraisse warns, "remember that the pace of the crew will be very slow. Every shot has to be conceived ahead of time. You can't hope to steal a shot." He often felt frustrated. "We lost the light almost every day because it took so long to set up. The winter weather conditions didn't help."

Lens choice was limited by availability; Fraisse wished he'd had a 250mm and a 180mm, but made do with a 30mm (the horizontal angle of which is almost 180 degrees), a 40mm, a 60mm and a

120mm. "Most of the lenses have an aperture of 4, but the 60mm opens at 2.8," he explains. Fraisse often shot at f16 or f22. "The more you close the stop, the better the result."

Fraisse shot interiors on several sets designed to accommodate the Imax system's wide view. "I shot at 6.3 or 8 to get enough depth of field, but that meant using big lights — 5K, 10K or 20K," he points out. "The eye needs to see everything very sharply on the big screen." But his eye could see everything in the larger frame — including the big lights, which are hard to hide. "Everything was visible in the frame, even two thirds of the ceiling," notes Fraisse. Clever lighting placement and simple camera moves were made possible by the specially devised set, which had been built to accommodate the specific needs of 3-D Imax.

Seven camera assistants were required for the shoot, including two stereographers, Noel Archambault and Ernie McNabb. "They were very important," says Fraisse. "They've been working with Imax for 15 years. They tell you what you can do and what you can't. Without a stereographer, you make mistakes on four different topics: acceptable depth of field, acceptable contrast to avoid 'ghosting,' interocular distance, and lens convergence. If something's too close in the foreground, it will be unbearable for the audience. It can make them dizzy, because it's too close to their eyes."

Archambault, who has worked on two other Imax 3-D movies (the documentary *Into the Deep* and the upcoming drama *Across the Sea of Time*), explains how the human eye sees 3-D. "In the real world, you can see an object a foot away from your face. But the way we see in 3-D is different. Your eyes always focus on the screen, where the image is. As you see the object come closer, you see it converging. You separate objects that eyes normally don't separate. That's where you limit how close you can bring the camera, which becomes complicated when you use longer lenses. When the focal length gets longer, it magnifies the depth. In 3-D, you're always taking two separate pictures, which the



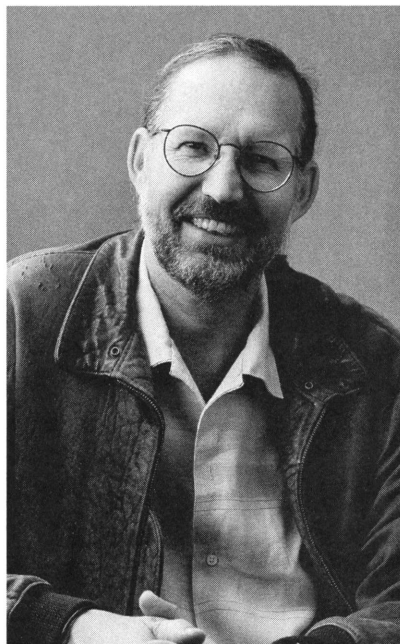
**“I started out working for four years at what was then the best rental facility in Hollywood,” says Director/Cameraman John Le Blanc, “Followed by thirteen years as a First AC. I have a trained eye for corner cutting at rental houses.”**

**“W**hen I began cleaning tripods there in the late Sixties, Mark Armistead was the standard of the industry for camera equipment,” says John Le Blanc.

“Their reputation got me my first camera crew job in 1973; the DP knew I had been trained at Armistead. Because of that, he even hired me as a First AC. I spent thirteen years assisting. I got to work with (and learn from) DPs like Laszlo Kovacs and Vilmos Zsigmond.”

“Four years at the World’s most meticulous rental place had taught me what to look out for when I began prepping. I had no say as to where the cameras should be rented, of course, so I prepped everywhere. At first, no place was up to the Armistead standard; most didn’t come close. But quite soon Panavision surpassed it in sophistication.”

“However, having worked in one, I could never take anything for granted at *any* rental house. At every prep, my attitude was



skeptical, to say the least. And I soon learned which places were cutting corners.”

“After ten years of skepticism, I realised in the early Eighties that I’d started to take some things *almost* for granted when I prepped at Clairmont Camera. The old Armistead way had been to do things honestly and thoroughly. I began to recognise the same way of doing things at Clairmont.”

“In 1986 I became a DP. Things at Clairmont were even better—more custom gear that was faster to work with, the same old impeccable maintenance. By 1990 (when I became a Director/Cameraman) Clairmont’s equipment had become a seamless system. Since 1986, I’ve been able to pick the rental house on about 90% of my jobs,” says Mr. Le Blanc. “That 90% has gone to the Clairmonts. I trust them completely.”

John Le Blanc has shot 65mm 60 frames/sec. for Showscan and VistaVision 3D for Universal Studios. He won a Golden Lion at Cannes for his cinematography on a series of commercials for AT&T. He was 2nd Unit Director/Cameraman on the features *Cocoon*, *Prisoner Of Honor* and *The Outsider*. He is now directing commercials for November Films.

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viewer fuses into one image. But if the director wants a big close-up, and the actor is too close to the camera, he'll be in a part of the image that isn't fusable."

Archambault feels fortunate to have worked with Annaud. "Of all the directors who could have done this kind of show, he had the vision to understand the technology and know how it could help him tell a story. We both agreed that the most interesting thing about Imax 3-D was its intimacy; the aspect of texture and the close proximity allows you to be more intimate with the subject."

Filtration was especially difficult for the cinematographer. "You can't use grad filters with the Imax rig," explains Fraisse, "because they have to be positioned exactly the same on both lenses. For the same reason, you can't use polarizing filters." Often, the best he could do was screw colored filters onto each lens. He could use a big grad on the Solido only by setting it strictly horizontally. "The two lenses are so close to each other that a single filter covers both of them," he notes. He could also use a large polarizing filter by angling it over both lenses.

Fraisse would have liked to have tested the Fuji film that Annaud chose to shoot *Wings*, but he didn't have the chance. "Fortunately, it worked out fine," he explains, "because I'd been using Fuji in France for some time." He employed Fuji 64 ASA for bright sun scenes, Fuji 250 for overcast exteriors and Fuji 500 for all night exteriors and stage sets.

Annaud chose Fuji for its color rendering "and because the company agreed to sponsor the film by giving us free film. But I was so happy with Fuji on this movie that I will use it again on my next 35mm project."

Fraisse found that the Imax system changed the way he framed his shots. "You don't frame the conventional way; you have to use only the bottom half of the frame. It is a bit difficult for the camera operator to struggle against old habits, but the actor's face has to be put under the cross representing the middle of the frame, or it becomes very disturbing during the projection."

In order to simulate the plane's movement in the sky, Fraisse used crane moves around the mock-up of the aircraft. "We also did some very nice traveling shots when Guillaumet is walking in the snow," the cameraman recalls. "And thanks to the NFB rig, we did some gliding moves with the camera over a table set on a stage."

One major difficulty the filmmakers confronted was not knowing what their footage would look like until after the fact. Fraisse and Annaud did use video assist to see what they were filming, but the six-inch screen, with its grainy green-and-white images, was "worse than a surveillance monitor," says the director. "In some cases, we couldn't even see an actor if he was 100 feet away in a gray costume in the snow. Most of the time we couldn't tell the difference between the white mountains and the blue sky."

Fortunately, Fraisse had shot a few tests ahead of time and had the expertise of two stereographers. "After a few projections, we had a much better idea of what was working and what wasn't. When it worked, it looked even better than reality."

When Annaud screened dailies transferred to video on his TV set, the director would put his face two inches from the screen. "That's the only way I could have an idea of what we had in the can," he says. "And it worked."

A landing scene at dusk posed one of Fraisse's biggest challenges. In the film, the plane is late and it's too dark for the pilot to land, so burning oil cans delineate the runway. In order to make the oil cans bright enough, Fraisse had to shoot at f2.8 as late in the day as possible, but not too late to read the ground and a warehouse, which would barely be visible from the evening sky.

"That was my trickiest shot," says Fraisse. "I knew I had no possibility of shooting again and I knew it would take 20 to 30 minutes to reload. I had to get it in one take, and I had to calculate when to give the pilot the cue to take off, knowing that the ambient light was decreasing very fast. I was losing a stop every minute."



Annaud admits that he did some worrying, but notes that "I always worry. The Imax camera differed from a regular movie camera, but that didn't bother me. I worked the way I always work, with everything carefully storyboarded, and had the set built so that Robert could hide his lights."

According to the director, the pressure of shooting in a new format was a plus rather than a problem. "We had less time and more pressure, which is often an advantage," he explains. "Abundance can give you a bad result, because it makes you lazy. When you are forced to be very tense, then you get somewhere. I always feel that it is better to create art under certain rigorous attitudes and pressure. If you have too many colors, you'll make a less inventive painting. If you have three colors, you'll go for the essentials. Robert suffered, because he had to add so much light to get enough depth. But he succeeded wonderfully."

Annaud considered the entire project such a success that he and the production team of Horton and Compin are planning another 3-D feature film together. "It's still far away at this point," says Horton, "but the important thing is that this film didn't discourage us. Jean-Jacques didn't get disgusted with the limitations of the technology. We were all excited about doing something that had never been done before."

The Imax 3-D system reminded Annaud of the first talkies, or the first Technicolor cameras. "It was such a challenge," he sighs. "You're dealing with a wide-angle lens, almost a fish-eye, and you've got so much in the frame that you can't cut or reverse, because you've already seen it. You move slowly from the master to the close-up. The danger is that your viewers can lose their balance because it's a frameless format. Our visual culture tells us that an image exists within a frame. Without a frame, you're no longer looking *at* an image, you are *in* an image. In 3-D, you are no longer in an image, but in a space. You don't see an Imax movie like *Wings*, you're *in it*." ☞

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# On Top of the World

Mountaineer/cinematographer David Breashears faces the treacherous terrain of Mount Everest to bring the Himalayan peak home in Imax.

by Naomi Pfefferman

Under a crystal-blue sky high in the Himalayas, cinematographer David Breashears hung suspended by ropes within a gaping gorge, the vertical walls falling away to a rushing river. As the wind swung him to and fro, he painstakingly attached lens and battery to his box-like Imax camera, and for the next 90 minutes shot yaks, porters

summit Breashears will wield the heaviest camera of them all, the Imax.

Of course, he will not use the standard Imax equipment, which at some 92 pounds would prove impossibly heavy high on Everest's slopes. Rather, he'll sport a new camera, the Imax MK II Lightweight cold-weather

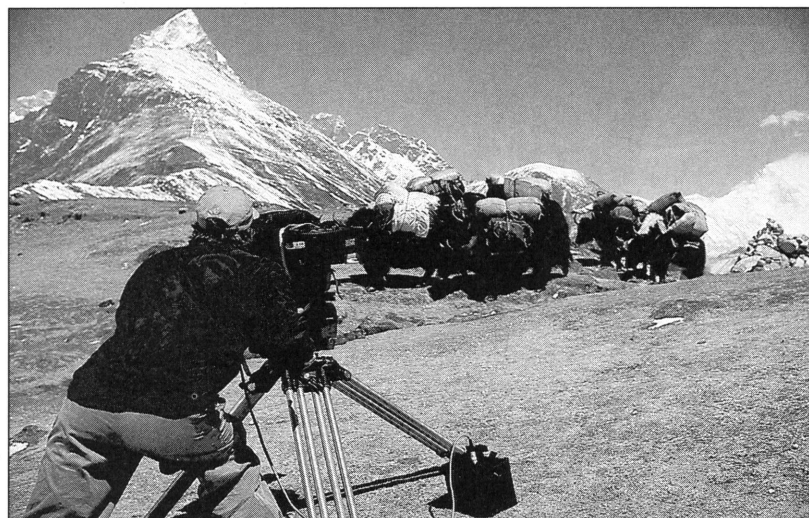
For the Boston-based Breashears, the movie will mark a pinnacle of his climbing/cinematography career. "The scale of Imax is so great that it will convey the sheer immensity, the drama of these mountains, like no other medium," explains the lean, 39-year-old documentarian. "It will really take you there, so that viewers will feel like they're with the expeditioners, panting and frozen as they struggle for the summit."

Breashears, who can keep up with the indomitable Sherpa guides above 26,000 feet, is more than familiar with the struggle. In 1985 he became the first American to twice conquer Everest, and has spent much of his career upon one peak or another, with a camera upon his shoulder.

His passion for climbing began at age 11, when he chanced upon a remarkable figure in a photograph. It was Tenzing Norgay, posing upon Everest's summit in 1953 just after the stocky Sherpa and Sir Edmund Hillary became

the first humans to reach the world's rooftop. Tenzing looked otherworldly, in his goggles and oxygen mask, holding aloft several flags affixed to an ice axe. "It was an image that captured my imagination like nothing else," says Breashears,

who honed his mountaineering skills as a teenager in Colorado and, according to *People* magazine, "became a near-legendary figure in the climbing subculture."

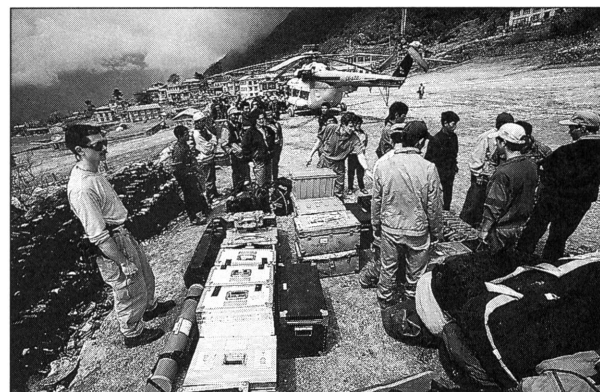


Photos by Severine Blanchet, courtesy of David Breashears

and Sherpas tromping across the rickety suspension bridge below the rock-and-ice spire, Ama Dablam.

Breashears, a mountaineer/cinematographer *par excellence*, was practicing to make film history.

Next spring he'll climb to the 29,028-foot summit of Mount Everest, plodding up the last icy stretches with an oxygen mask upon his face. From the highest point on Earth he'll capture spectacular images for MacGillivray-Freeman Films' Imax movie, *Everest*, at heights so devoid of oxygen that life ceases to exist. In that "death zone," every extra ounce carried is an agony, yet on the



model, which weighs 48 pounds (including batteries and loaded 500-foot magazine) and operates at temperatures as low as -40° Fahrenheit.

**Opposite:** Poised at 17,600 feet above sea level, cinematographer David Breashears hand-holds a 48-pound, weatherized Imax MK II Lightweight camera while filming an ice-climber on Mt. Everest. Above left: Breashears captures a yak caravan in the Gokyo Valley, with the eternally snow-capped Himalayan peaks in the background. Bottom left: The Everest crew arrives at the Lukla air strip (9,350 feet) via helicopter.





**Suspended in mid-air 300 feet over the Imja Khola River, Breashears films porters and Sherpas on a bridge above him — practice for shooting within a deep icefall crevasse. Needless to say, the bulky Imax camera was difficult to hold. Special handles will be added for the actual Everest ascent next year.**

To reach his dream, the Himalayas, Breashears snagged sound technician gigs on Everest expeditions for ABC Sports in 1979 and 1981. During the latter trek, when a cameraman called upon him to tackle an icy rock face, he stepped behind the lens and launched his cinematography career. The mountaineer received an Emmy for this impromptu debut, and on May 7, 1983, he first set foot on the summit, carrying a Panasonic industrial video camera and a microwave transmitter to beam the first live images from the top.

A second Emmy followed, then a third, and Breashears went on to produce, direct and co-write "Taller than Everest" for the PBS series NOVA. He directed and filmed *The Nameless Tower Free-Climb* in Pakistan for ESPN and filmed the *Frontline* documentary "Red Flag Over Tibet," which he also produced with David Fanning. In between, he led or participated in 16 Himalayan expeditions and served as a climber/cameraman on the second unit of the Renny Harlin film *Cliffhanger*. There, as always, he was called upon when the lens was to be placed upon a particularly precarious perch.

So it was not surprising, once MacGillivray-Freeman Films



decided to shoot *Everest*, that Breashears quickly came to mind. "Since Imax creates such a physical, sensory connection to the audience," producer Greg MacGillivray says, "we've set our films in outer space, in the depths of the ocean, and now we'll go to the top of the world." And who better to take them there than Breashears, who began working with Imax engineers late last year to modify the MK II Lightweight prototype to withstand Himalayan punishments.

"The first thing I told them is that the camera, battery and film would have to run, without any heating system, after sitting at -40° overnight, so that when you turn it on it works time after time," Breashears begins. "The knobs and lens mounts would have to be

large, accessible and robust, so when you're tired, when your motor and thinking skills are down and your hands are stiff even with your mittens on, you can flick a switch and not have it break off."

With some \$35,000 in research and development provided by MacGillivray-Freeman Films, the Toronto-based Imax team, headed by Kevin Kowalchuk, designed an 11" x 11" x 10" camera that was light yet durable. They machined the body from magnesium, which is lighter than aluminum but not as rigid, and selected a 12-ounce motor which turns at 1440 revolutions per minute to move 5.6 hefty feet of 65mm Imax film per second.

Other modifications include drive belts made of polyurethane, rather than the polyethylene used in other Imax cameras (polyurethane remains flexible in the

cold); bearings lubricant that keeps its viscosity down to -100° F; a crucial three-second ramp-up time to ease frozen motor gears and film into motion; and an attachable hand crank for loosening up the system in the most extreme conditions.

Moreover, the non-rechargeable, 32-volt lithium expedition battery pack weighs only six pounds, works down to -40° F, has a shelf life of 10 years and puts out four times the power of nickel-cadmium batteries, according to manufacturer Stuart Cody of Boston-based Automated Media Systems.

By mid-February, Imax engineers were making the final adjustments after testing the camera dozens of times in two cold chambers and on a freezing, snow-covered mountaintop in New Hampshire. They installed slots to allow the claw arm assembly to shrink without jamming up, redesigned the feed clutch, placed a cold-weather lubricant in the lens focus rings and recalibrated the lenses for proper focusing at -40°F.



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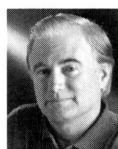
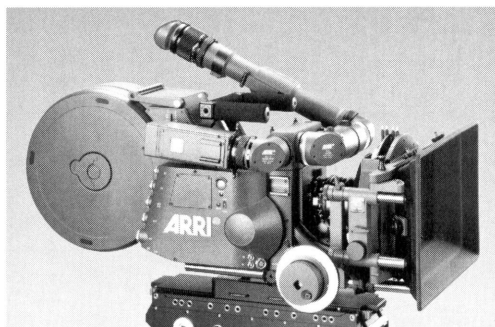
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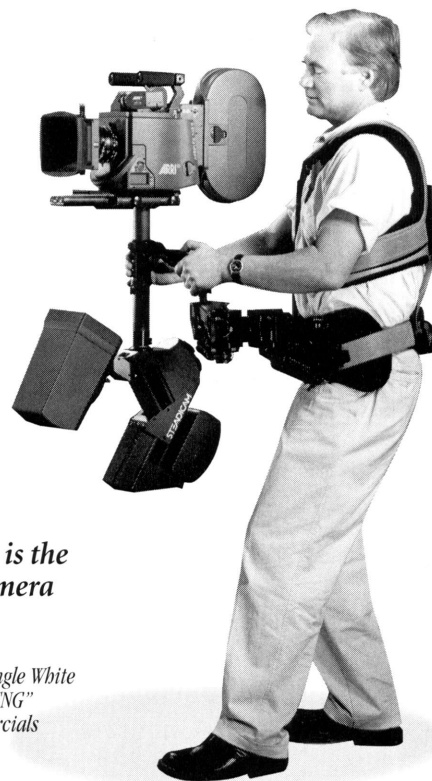
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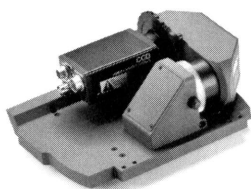
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Because acetate stocks tend to crack in cold, bone-dry mountain weather, Breashears and MacGillivray selected an Estar-based film stock. Estar is a durable, untearable plastic similar to Mylar.

On March 26, the cinematographer was ready for the most critical test of all. He was off to Katmandu, with assistant cameraman Kowalchuk, production manager Elizabeth Cohen and still photographer Severine Blanchet, for a 28-day trial shoot while trekking more than 160 miles in the Himalayas. Their goal this time was not the top of the world, but rather Everest Base Camp and the adjacent vantage point Kala Pattar at 18,200 feet.

The crew loaded the Imax equipment into a Russian MI-18 transport helicopter and set off for Lukla (9,350 feet), at the remote airstrip that Sir Edmund Hillary had built. Within hours they were on the steep trail, with 40 loads of camping and filming gear.

The camera, Ronford tripod legs and O'Conner 25/75 fluid head were toted in soft backpacks by four Sherpas, who after a week of training served as part of the film crew. The equipment package also included various Schneider and Zeiss-Hasselblad lenses, two rolls of 65mm Kodak 5296 high-speed film and 28 rolls of 65mm Kodak 5248 100 ASA, ideal for shooting in bright, white Himalayan light. There was also a Sony digital tape recorder to record wild audio, since all sound for the movie will eventually be dubbed.

Breashears treated the equipment precisely as he would a 16mm documentary unit, propping the camera upon rocky ledges or foam pads in the snow. "I wanted to see how feasible it was, on a daily basis, to transport a complete Imax setup across rugged terrain, and I set a greatly-accelerated pace to mimic the harder work we'll encounter at higher elevations next year. My attitude was that the minute we started saying 'This is Imax, it's too heavy and too big,' we wouldn't have gotten anything accomplished."

As it turned out, Sherpas, camera and batteries performed "flawlessly" as the crew traveled

up to 12 miles a day, gaining and losing thousands of feet in between four or five camera setups. "We could be ready to film within four minutes," recalls Breashears, who shot cloud formations and camp scenes, the bustling Namche bazaar and crimson-robed monks in the Thyangboche Monastery, where the sounds of horns and chanting punctuated a Buddhist ceremony.

Along the way, the lightweight, cold-proof camera proved reliable in the harsh environs. Crew members arose at five a.m. from tents perched upon rock and ice, in temperatures so cold that their water bottles had frozen in the night. They could not shower for 28 days, though they could get hot water from the cooks in the dining tent. And the team lost a day when Kowalchuk was sick with a fever. "Every 500 feet you feel the difference in altitude," the Imax technician says of traversing the oxygen-starved heights. "You're quickly exhausted, you feel very heavy and breathing is so difficult that it seems as if you've got a bag over your head."

Breashears, meanwhile, was busily rehearsing for principal production next year, practicing the kind of shots which will eventually become part of the *Everest* Imax movie. To prepare for work in the Khumbu Icefall, he handled the camera while filming several scenes upon the rocky glacier near Everest Base Camp. His 40mm lens captured a world-renowned climber tackling an austere blue-green ice tower, in a forest of frozen spires jutting from the earth.

Breashears later practiced shooting while hanging 300 feet above the Imja Khola river; next spring he may lower himself into a deep icefall crevasse to film trekkers crossing above. "It was the first time I had tried to use the camera from a suspended position," he admits. "I found that it was extremely difficult to hold what was essentially a large, heavy box out in front of me." Strategically-placed, lightweight handles will be affixed to the camera to facilitate such work next year.

Ask Breashears, however, and he'll tell you his biggest chal-



lenge was not toting the Imax camera, nor braving the altitude or cold. Rather, it was "finding good light in a place where the spring sun quickly gets up high in the sky, making for very flat, unattractive shots." Early morning or early evening proved the best time to film, yet even then the light was elusive — and the weather unpredictable. Breashears once found himself huddled with nine men in a two-person tent atop Gyokyo Ri, for example, after he encountered not the sunset but snow.

The cinematographer also grappled with "the contrast problems of filming in extremely bright light reflecting off white peaks." A typical dilemma was shooting the shaded face of a deeply-tanned climber beneath a snowy mountain, the former requiring an exposure of f5.6 and the latter f22. A one-stop neutral density mask brought the light down in the top third of the frame. "But I still had to be very careful about which exposure I chose within that broad range, so I got the shadow detail I needed without blowing out the highlights on the sunlit peaks," says Breashears, who as yet has seen only a videotape of the dailies. "Since I was often working at f16 or 22," he adds, "we'll have to check on how well the lenses performed at their smallest apertures."

Another challenge for Breashears was learning to shoot in the huge Imax medium, which proved to be "a whole new film grammar which contradicted much of what I had learned as a documentary cinematographer." In Imax, he discovered, "your important visual information is located much lower in the frame, below the cross-hairs, because you don't want people to have to crane their necks to see something crucial at the top of a six-story screen. You must pan and tilt very slowly, to avoid strobing problems, and since the camera uses 5.6 feet of film per second you don't want to waste one scrap."

However, Breashears was quick to eschew his typical TV close-up of feet on the trail, since that would have translated into a disastrous pair of 60-foot-tall Imax boots. "I'm sure I had the tendency to shoot too tight," laments the cin-

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ematographer, whose fears were eventually allayed by his employer.

MacGillivray reports that the dailies look good, save for some dust particles which appear as "large dots" upon the screen. He says that Breashears has performed better than any other first-time Imax cameraman he has ever worked with, remarking, "David has a good feel for the format, and while he has some improving to do, I'm sure he'll get there soon."

Of course, the equipment needs some slight modifications before the crew's return to Everest next year. Kowalchuk and the Imax engineers will "make the camera's electronics more modular, so that they can be easily accessed from outside." They will add a crystal speed control and an external speed sync control for shooting with lights indoors, and will improve access to focusing and aperture mechanisms. In addition, the Sherpas' backpacks will be modified for better use with frozen fingers, and Kowalchuk will bring "some kind of small vacuum cleaner which will run off the lithium batteries" to keep dust out of the camera.

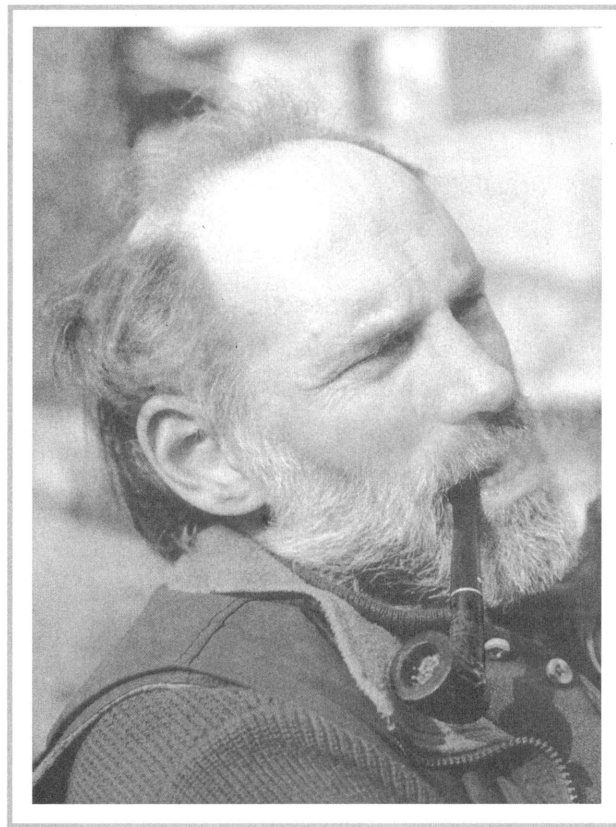
In the meantime, Breashears will help screenwriter Tim Cahill, an editor-at-large at *Outside* magazine, with concise storyboards, and will help select the mountaineers who will serve as protagonists. The 40-minute *Everest* will focus upon their struggle and upon the culture, religion, politics and geology of the Khumbu region.

But what if Breashears and company cannot make it to the summit while filming this \$4.5 million Imax movie? MacGillivray says, "That wouldn't be absolutely damaging, since the struggle is where the story is." Breashears, however, shakes his head. "Not making it to the top is not part of my plan," he says, firmly adding that "on a well-run expedition that's not hell-bent for leather, something has to go dramatically wrong for there to be a serious accident. And barring bad weather, deep snow or sick crew members, we will make it happen; we will reach the top."



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"WE SAW THE MOST BEAUTIFUL sunsets in Hawaii every night," director of photography Dean Semler, ACS says with a smile. "But if you see 80 or 100 of them in a row, you get damn sick and tired of it all and wish for some smog or something."

Though he voices this opinion with humor, Semler probably voices the feelings of his fellow *Waterworld* veterans more succinctly than he realizes. This Universal Pictures production shattered studio records for consecutive shooting days (166) and has

become commonly known as one of the most expensive films ever made — to the estimated tune of \$175 million. But while the media has strung these few facts out over months of repetitive innuendo, little real information about *Waterworld*'s daunting production has surfaced until now.

Originally devised as a low-budget actioner by Peter Rader in 1986, the *Waterworld* premise was rejected as being too ambitious, with one producer decrying that it would cost "over \$5 million!" Several years and re-

writes later, Rader's resulting script found its way to producer Charles Gordon, producer/star Kevin Costner and director Kevin Reynolds, best known for his inventive road picture *Fandango*, the blockbuster *Robin Hood: Prince of Thieves* and the Easter Island adventure *Rapa Nui*.

"This was pretty unique," says Reynolds, who had never before found himself drawn to the science-fiction genre. "I'm very concerned with ecological issues, because I think they are the overwhelming problems the world



# An Oceanic Odyssey

Director Kevin Reynolds and cinematographer Dean Semler, ACS discuss their work on *Waterworld*, the most complex and lengthy production ever attempted on the high seas.

by David E. Williams

tered vestiges of humanity surviving for centuries upon boats and makeshift atolls built with the rusting scraps of a drowned civilization. There is no history, only rudimentary technology and no dreams of a tomorrow beyond the next wave. On one of these floating islands, a loner known as Mariner (Kevin Costner) has arrived to barter for supplies, his towering trimaran slipping into the atoll's central lagoon. Suspicious of his origins, the agronomic inhabitants of the atoll imprison Mariner and sentence him to a foul death.

In a twist of fate, a flotilla of vicious pirates known as Smokers assault the atoll. Led by the Deacon (Dennis Hopper), they are based on a rotting oil super-tanker called the *Deez* (an abbreviation of *Exxon Valdez*, perhaps?) whose ancient cargo of crude oil supplies the industrialized Smokers with the explosive firepower to wreak havoc at will. In the ensuing chaos, Mariner escapes with Helen (Jeanne Tripplehorn) and Enola (Tina Majorino), a mysterious young girl who may hold the key to finding Water's End, a legendary spot of dry land. Learning of

the girl's possible secret, the Deacon plots a course to intercept Mariner's trimaran and capture the trio, leading to the picture's cataclysmic conclusion and the truth about the mythic Water's End.

"The genre allows you to create a time and place where people see themselves in other characters and, hopefully, learn a subtle lesson," says Reynolds. In that respect, he adds, *Waterworld* is similar to *Planet of the Apes*, "which had a similar theme of self-destruction."

But while this eco-adventure's analogical overtones appealed to Reynolds, Semler's interest in *Waterworld* was piqued by his

**Opposite: The Smokers savagely attack the atoll, launching over walls to meet its defenders. The huge, nearly-mono-chromatic floating set, largely made of steel, proved dangerous for the cast and crew and problematic for cinematographer Dean Semler — suspended at left on a prop flying machine in an interior atoll set. "You could put 100 or 150 extras on there and they would literally disappear," he laments.**

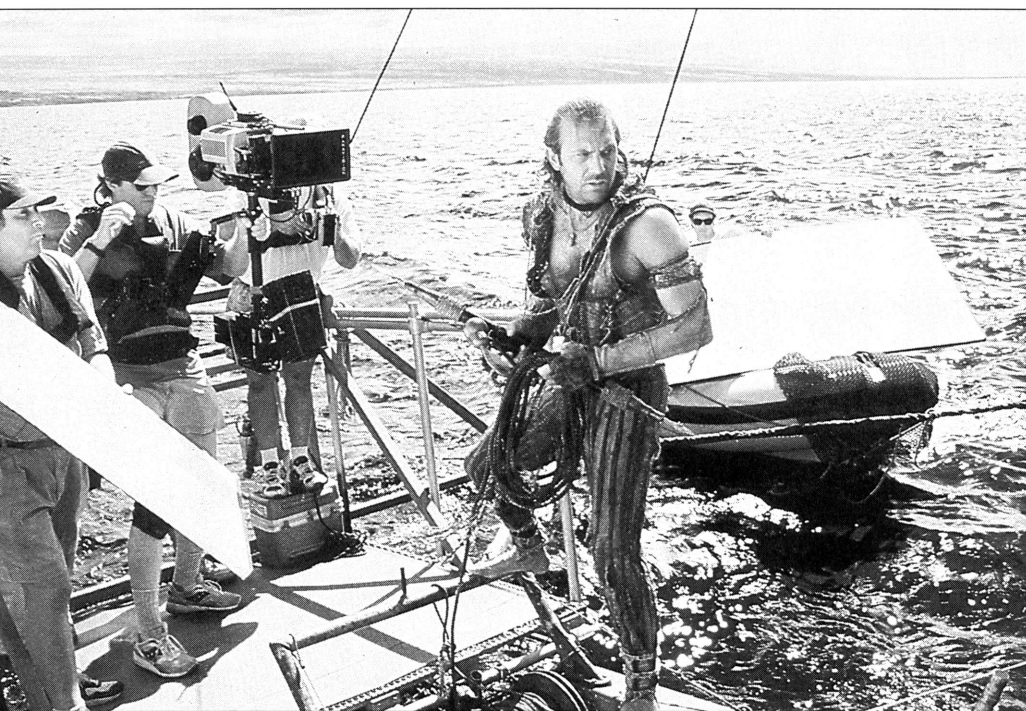


faces right now and will result in our own self-destruction. But while there have been a lot of post-apocalyptic films, they have all had a nuclear scenario. What was different about this one was that it had to do with an ecological conflagration, a whole world covered in water because of human stupidity and greed."

In essence, that doom is the futuristic result of the pollution-fed "greenhouse effect" gone mad. The Earth's polar ice caps have melted and immersed the land in a great flood, with the scat-

Photos by Ben Glass, courtesy of Universal City Studios





**Above:** The space limitations on *Mariner's* (Kevin Costner) trimaran kept the crew to a minimum, but ingenious platform mounts at least gave technicians a place to work. A-camera operator Mark O'Kane (left) also manned the Steadicam, vital in providing some image stability. **Right:** For the *Deacon's* impressive intro, Semler used a barge-mounted Pegasus crane and a Wescam to skim the waves, pass over his oncoming boat and come in for a close-up of Dennis Hopper (opposite left). Says Semler of the crane, "We got some great use out of the rig, but that reveal shot of Dennis was the most special one."

talents to *The Road Warrior*, *Mad Max Beyond Thunderdome*, *The Coca-Cola Kid*, *Cocktail*, *Young Guns I and II*, *Dead Calm*, *City Slickers*, *The Three Musketeers*, *The Cowboy Way*, *Last Action Hero* and the critically acclaimed television miniseries *Lonesome Dove*.

Reynolds was equally enthusiastic about Semler joining the production, reasoning, "Dean understands the pressures and difficulties involved in doing a giant studio action picture. He had also had extensive experience shooting on water with *Dead Calm*, which looked great. But Dean also has such a great personality and attitude. Nothing keeps him down, and on a film of this size you need a person like that."

Reynolds adds that he was particularly impressed with Semler's work on *The Road Warrior*. Released in 1981, *Warrior* was director George Miller's sequel to his frenetic first feature, *Mad Max*. A modestly-budgeted, post-apocalyptic nightmare, *The Road Warrior* inspired a decade of imitators and a Miller-Semler reteaming on the followup, *Mad Max Beyond Thunderdome*.

"I had never done anything like *The Road Warrior* before. I went from news to documentary to drama — lighting, operating, doing everything," says Semler,



who spent his early days in South Australia's fledgling television industry during the Sixties as a 16mm Bell & Howell-wielding reporter. He made a variety of shorts and documentaries before meeting Don McAlpine, ASC. McAlpine introduced Semler to the Film Australia filmmaking center, where he got experience in 35mm and moved into color. He subsequently shot two low-budget features, *Let the Balloon Go* and *Hoodwinked*.

"I was never taught by the masters how to use filters, lights or

cutters; or how to avoid problems," he says. "If the camera shook, it didn't worry me. I don't mean to put the U.S. system down at all, because it's fabulous and I love this place, but I wasn't brought up with the fear of doing something wrong. *The Road Warrior* wouldn't have worked if that *shake* wasn't there. George and I talked about the film a couple weeks ago, how the camera was so rough, especially in the climactic chase sequence with the tanker. I was operating, and the area all around my eye was bleeding because the camera was bouncing into my head so much. I just had to close the eyepiece and aim [the camera]. But George always said, 'Just be bold.' There were a lot of offers after that to do *Road Warrior*-type films. It was one of the most copied films of the Eighties, in style, wardrobe, look. But I never did any of them."

Ironically, the early media buzz on *Waterworld* was that it resembled "*The Road Warrior* on water." Laughs Semler, "No one ever mentioned *Road Warrior* to me at the time — not Costner, Kevin Reynolds, the producers, no one."

### Learning to Swim

It was decided early on that *Waterworld* would be shot in two segments. The first, with scenes involving the atoll, *Mariner's* trimaran and the *Smokers'* attack, would be executed in open water



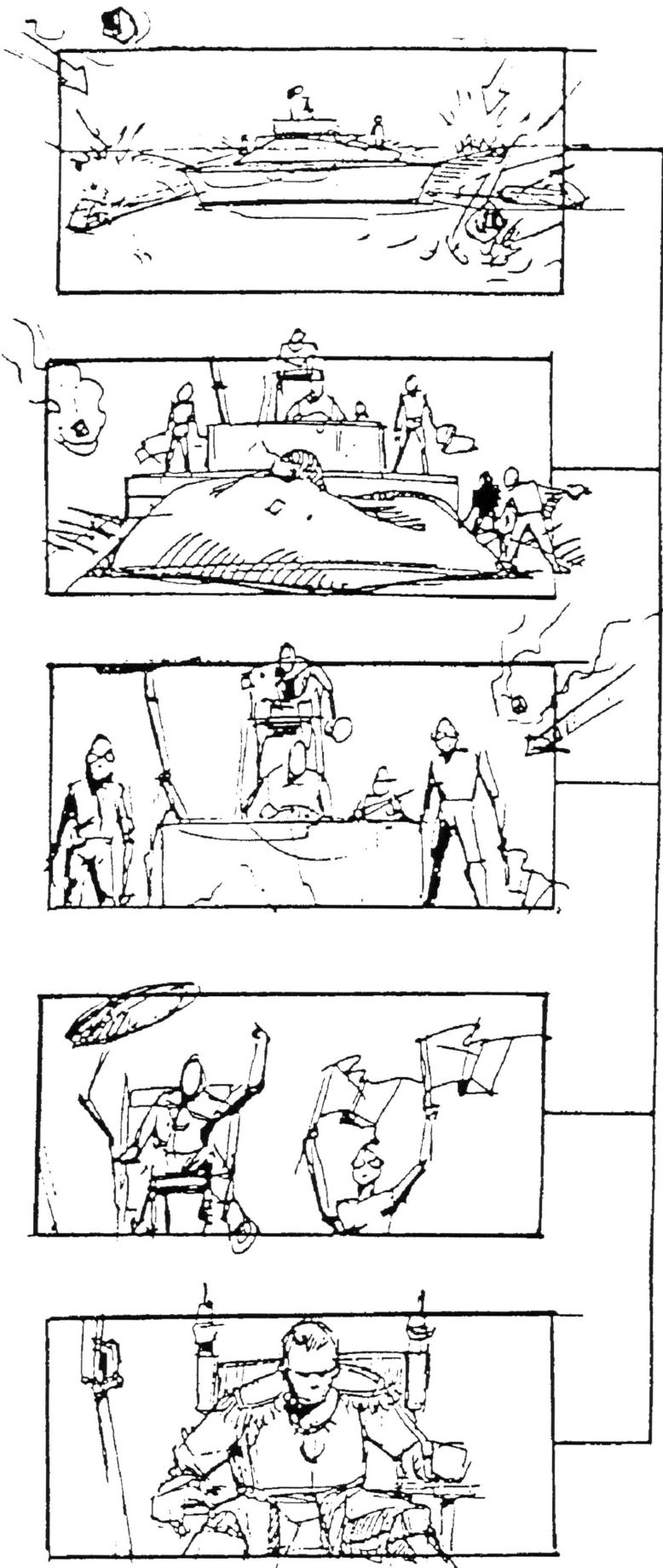


off Hawaii on boats and massive floating sets. The second part would take place on interior and exterior stages in Los Angeles.

Explaining the initial plan for the open-water Hawaii shoot, Reynolds recalls, "We thought we could get these sweeping 360-degree shots of open horizon, so we'd just take the boats, sets and crew over the horizon where we couldn't see any land." But as the actual size of their main set — the atoll where much of the first act of the picture occurs — took shape, the logistics required became dauntingly clear. "We very quickly realized how completely ludicrous that idea was," the director confesses.

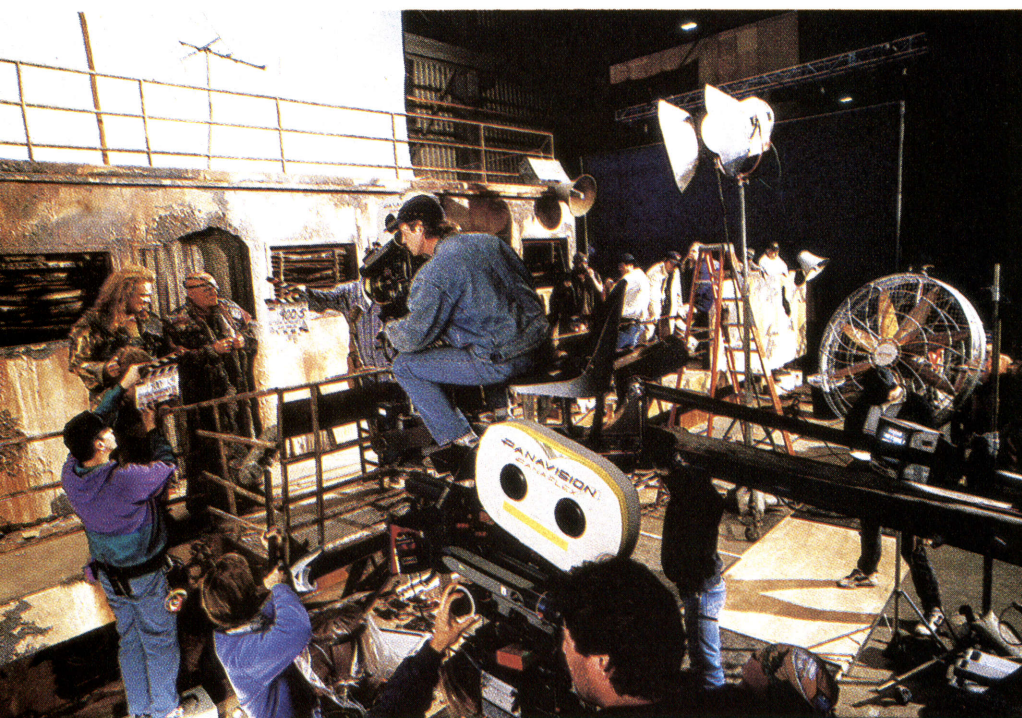
Reynolds adds, "On *Rapa Nui*, we shot on Easter Island over six months and spent quite a bit of time on the water for a particular sequence — a treacherous swimming contest. That's when I first saw how tough it is to line up boats, cameras and people and keep them in one place. Anything you do on water takes twice as long as anything you do on dry land. So on *Waterworld*, I realized the need for having superior marine coordination and thinking things through in much greater detail. That meant everything would have to be simplified, because I knew we weren't going to have the 300 shooting days [our original approach] would have mathematically required."

Semler joined the production in March of 1994. "We were planning to start shooting toward the end of May in Hawaii," the cinematographer says. "The location had been fixed and the designs had been done — by Dennis Gassner, who did a fantastic job. I had quite a long prep, spent primarily with Kevin Reynolds, and he had already done storyboards by that time. To his credit, I had looked at storyboards in



Director Kevin Reynolds' storyboard sequence for the Deacon's intro. Reynolds boarded extensively in preproduction for the largely on-location *Waterworld* shoot. He explains, "You have to consider what the physical complications of the shots will be. You think, 'To get this kind of spatial relationship, we're going to need this sort of lens' and so on. If you need some kind of unusual lens or equipment, you have to know it well in advance." Says Semler, "Kevin had a very strong image of how he wanted things to look and we stuck to his original plan very accurately."





**Above:** *The Deez bridge was re-created inside on one City of Commerce cover set. Twin Panavision Golds cover the Deacon and his henchman as a straight tungsten 20K (center) offers substitute sunlight — bringing the set up to f2.8-4 across a 50-foot portion. A painted cyc sky and wind machine help complete the outdoor illusion. Right: Mariner sneaks through the rusty interior of the Deez. In the background, clusters of downward-reflected 4K Pars provide bright shafts, simulating huge sky-lights, while 1/2 or full CTO 10Ks and Maxi-Brutes offer warmer fill from the side.*

March and we were shooting those same boards at the end of the year and the beginning of the year after. Kevin was fabulous at pre-visualization, and his cuts worked very well."

Says Reynolds of his preparation, "We were forced to shoot in one direction in order to get a clean horizon without land. If you wanted to do a reverse, you had to turn the whole set around to maintain it, so knowing shots in minute detail was essential. Then we could break it down and take the approach of a military operation. That's the only sane way to do something like this. As for visual style, Dean and I figured that the film was going to assume a look of its own by virtue of the difficulty of shooting on water."

Semler describes how Reynolds nevertheless fostered *Waterworld's* evolving scope, explaining, "He didn't cheat himself with little insert shots. Instead, they became big shots, and we got a lot more big-screen value out of them. A classic example was a shot of a grappling hook latching onto the bottom of an airplane that is taking off from the top deck of the *Deez*. You could give that to second unit, they hang up the thing and click — you've got it. It took just an hour to shoot it, easy. Instead, the shot became [a view] from the air-

plane, looking down past the undercarriage to Kevin Costner running across a burning deck, jumping up into the air and hooking the grappling hook right into the lens. That's a Kevin Reynolds insert shot. It took longer to do in preparation time, but wow, is there value."

Responds Reynolds, "To give a picture size and scope, you have to take those tiny actions and place them against a big backdrop — like having a shot of someone lighting a cigarette while miles of explosions are going off behind him. When you see that, you're taken aback by the contradiction of the simplicity and the scale. It would be fabulous if you could do a whole film like that, but you usually have to settle for the moments you can get."

As one hears these descriptions, the mind seems to automatically frame them in 2.35:1, but Reynolds and Semler decided to shoot *Waterworld* in 1.85 for specific reasons. Says Reynolds, "I didn't want to do anamorphic because even though the look is great, you're limited in terms of lenses. Your depth is very different. The minimum focus is different. The lenses are more cumbersome. I realized that we were going to need as much flexibility as we could get under adverse conditions."

Semler agrees, adding,

"The trimaran figures in thirty pages of the script, and it's a vertical shape. If we had done our wide shots of the trimaran in anamorphic, it would have been a dot on the sea, and Kevin Costner would have been even smaller."

"But the 'look' of the picture, if there is one, is primarily in its production design and location," says the cinematographer. "Kevin wanted it to be fairly monochromatic, so none of the boats, the atoll, the interiors, or wardrobe had any primary colors or whites even. Everything was just a scaly, old dead-fish color, and very problematic to photograph — like the atoll, which was the size of a football field. You could put 100 or 150 extras on there and they would literally disappear because everything was the same color. So if you had principals in there, and you wanted to pull them out, it was nearly impossible."

Faced with achieving the impossible, Semler followed his instincts when putting together his support team for *Waterworld*,



stressing that his selections were made for more than technical reasons. "We knew it was going to be tough on the temperament, so I looked for people who were going to make it as easy as possible. I brought William 'Bear' Paul along as key grip. He just knows what I want, has a great attitude and sense of humor. My A-camera operator, Mark O'Kane, was also our Steadicam operator on





**Nighttime shooting on the Dennis Gassner-designed atoll was especially hazardous, as the combination of water, steel construction and electrics were a dangerous mix. Cabled by best boy Chuck Sharp and his team to accommodate the equivalent of half a dozen 12Ks, the football field-sized set was lit with practicals augmented by Par 64 spots mounted in towers. Recalls Semler, "Because there was so little room on the atoll, we had the generators out on barges, where we would also store all the grip gear." Mariner's trimaran is moored in the central lagoon, giving some sense of the artificial island's impressive size.**

*Waterworld*. I had done *City Slickers*, *Three Musketeers* and *Last Action Hero* with him, and he had all the right equipment, all the bells and whistles. Mark did an amazing job between running A-camera and the Steadicam, and never had a rest between the two. Tony Rivetti was the first camera assistant, and I know why Clint Eastwood uses him all the time — you don't need a second take because he is an intuitive focus-puller and absolutely painless to work with. The gaffer was Mel Maxwell, who had done *City Slickers* with me. Mel is an endurer, and I needed someone who could bear with us when we weren't using lights — which was a lot of the time. But I also needed someone who could prepare sets, because we had *major* sets in Hawaii that had to be lit."

Semler took O'Kane and Bear Paul to Hawaii for some primary tests at sea. He reports, "I made up some demo shots and we tested them out on the trimaran just to give Kevin Reynolds and Kevin Costner a look at it and see what they thought. I didn't want to get to the trimaran on the first day and say, 'How the hell are we going to do this?' We also shot the

'making-of' footage on video so they could see how complex the rigging was to get these shots."

Says Reynolds of the test video, "It taught us in terms of time how long it would take to shoot and get reverse coverage — or the inability to do that. One of the things we wanted to do early on was to use a position way up on the mast looking down with a hot-head. We were only really able to get a few shots from up there because it was so complicated putting a camera up there; it took half a day to rig, which meant the boat was out of commission for that time. So one shot could take an entire day."

Soon after, camera equipment was readied back in Los Angeles. Says Semler of the package, "I've always generally used Panavision, although we pulled out an Aaton to use on the trimaran because of its compact size. I had spoken to John Toll [ASC], who'd shot a film about the America's Cup race called *Wind*, and he swore by it. I had to give up the Aaton to the second unit whose needs were greater than mine. But my basic package consisted of two Golds, an Arri 3 for high-speed, a lightweight Panaflex for the

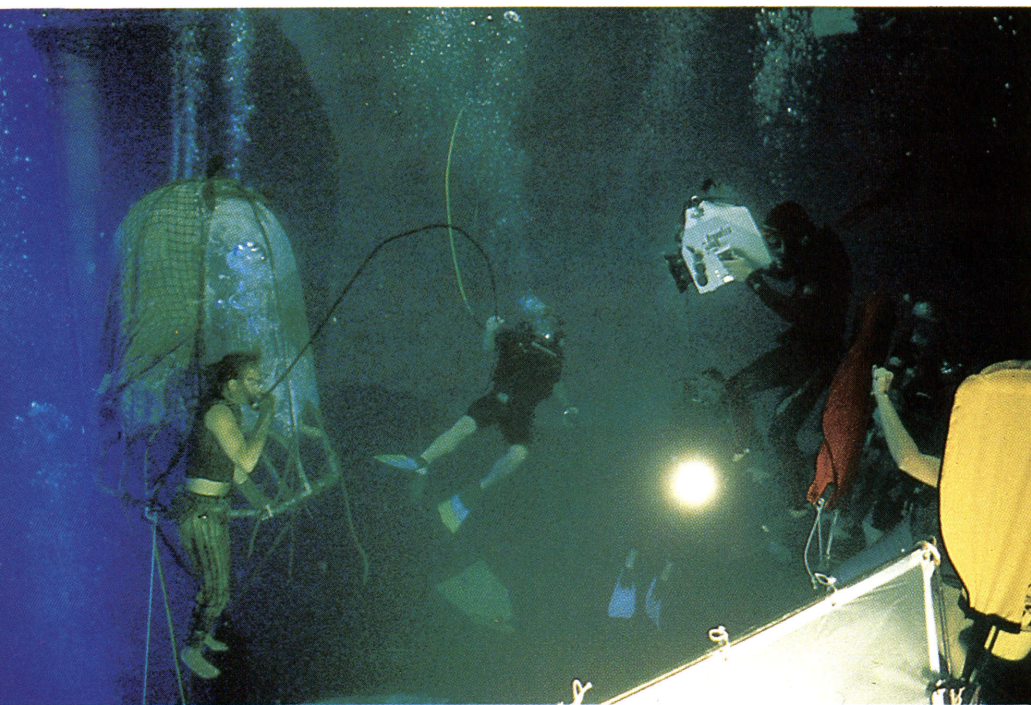
Steadicam, a third Gold as a back-up and an Arri 2C for the risky situations.

"Our underwater expert, Pete Romano from HydroFlex, had a lot of surf-housing cameras, so you could shoot just on the surface and go down about two or three feet," Semler adds. "Those were great for handholding. Richard Merryman, the second cameraman, who worked on the *Mad Max* films with me, used those quite a bit. And then there were the deep-water cameras, which Pete shot with himself. For the aerial work, we used the Spacecam with Ron Goodman, as well as the Wescam.

"We also had Robert Dunn, a former Panavision technician, on for the whole time in Hawaii. The potential water problem was plain, but we had no problems with corrosion because Bob would service everything each night; each morning we would pick up a 'brand new' package. Panavision had a lot of little gizmos to keep everything dry, but they had to protect their bloody gear anyhow."

From their earlier experiences on water, Reynolds and Semler anticipated their inability to maintain any semblance of steady-





**Underwater shots were done at tanks in Huntington Beach. "One was the discovery of the submerged city and the dirt from the ocean floor," explains Semler, who coordinated with underwater cinematographer Pete Romano from HydroFlex. Shooting in front of a huge bluescreen backed by 100 waterproof 1K Pars, "we used an 18mm lens, starting on a close-up of Kevin scooping up the dirt, passing his face as we follow his hand up, and ending on Jeanne — she's inside this sort of bubble. I tried to get an f4, since Pete was pulling focus himself, but we only had an f2, so we went wide open. It's a fantastic shot and God knows how he did it."**

ness on the open sea, which dramatically cut down their choice of optics. Explains Reynolds, "We couldn't even use a 75mm in certain situations because of the shake. We couldn't keep anything in frame. One of the few ways to minimize that was to go with a wider lens. We also shot a great deal on Steadicam, and Mark O'Kane, the operator, did a fantastic job."

Says Semler, "I think you can go through the script supervisor's notes and find that 70 to 80 percent of the film was shot with a 27mm Primo lens, as far as our principal work was concerned. The longest we used at any time was a 150-600mm Canon for some work with Hopper giving a speech on the bridge of the *Deez*. But that was only while shooting on dry land. So the lens is *in there* with the drama and action. I think it's like *witnessing* it, and I like to put the audience into the action. It's nice to get close enough to an actor that you can *smell* him. Kevin Reynolds liked that too."

The director agrees, "The closer you are to your subjects, the more you can see their eyes and perhaps empathize with what is going on behind them."

But from the standpoint of his directorial style, Reynolds adds, "There are a couple ways



you can approach film. You can simply set up a camera and record action, or you can force the eye. I *like* having my eye forced. I like seeing something from a completely different perspective, where things are flattened out by an extremely long lens or distorted by a really wide lens. Consequently, I like to force the eye. It's a hyperreality, which I think is why people go to watch films. But on *Waterworld* I was really very limited in what I could do. So that was frustrating."

Offering further details, Semler notes, "We also had a new, lightweight, 27-68mm Panavision zoom. And I swore before going out there that it was going to be the lens that was going to save my ass. It weighs nothing, and it's great for handheld and great for Steadicam work — you can push in at 27mm

to two feet away and then zoom in to 60mm at the same time, so you can go right into eyeballs. It's a great lens for situations where you don't want a heavy zoom but need a little *choice*."

The lesser, yet nagging, aspects of water and cameras not mixing were also handled straight away. "We of course had a lot of problems keeping water off the lens," admits Semler. "But Pete Romano also designed this little squirt deflector, which worked marvelously. Essentially it's a watertight Panavision matte box with a piece of optical glass and a tiny copper fanned nozzle in front. Compressed air coming through a hose just blasts away anything that might hit the glass. We used those a hell of a lot because you didn't have to have them turned on all the time, but the assistant could give it a quick squirt and anything there was gone."

### Fighting the Sea

Asked to describe the Hawaii shoot, Semler responds with a wishful smile. "There were times when I said to Kevin Reynolds, 'Hey, what if we just went off to sea

in the trimaran with the three actors and a Bolex, without seeing anyone or land for three months?'"

Laughs Reynolds, "The only problem was that we would have gone completely mad staying on that boat for so long. It was hard enough staying on it for 12 hours a day, much less around the clock."

The first twinges of insanity began early. While Semler had experience shooting on boats, the trimaran design soon presented new dilemmas for the cinematographer and his crew — despite their preproduction tests.

"It was immediately different from *Dead Calm*, because on that film we were shooting on boats with decks that you could walk on," Semler relates. "*Waterworld* features a trimaran with a rope-webbing trampoline suspended between three hulls. You can't walk on it —



you bounce around on the damn thing. So Bear Paul and our rigging grip, Levon Besnelian, built dozens of amazing platforms for the trimaran out of steel, aluminum and timber — so that we could surround the boat at any time with space to work. We probably built too many of them, but we wouldn't have been able to shoot the picture without them. It was impossible."

"It was tough," agrees Reynolds. "But another problem was that you could only put the platforms on or take them off at dock. So in the morning we would have to meticulously plan so we could shoot as much coverage as we could from any given mounting configuration before making a change. We even had two different trimarans. Depending on the shots we were doing, we would sometimes be rigging two boats simultaneously."

Because the trimaran was under sail in most of its scenes, with its necessary crew of five tucked inside the hulls looking at video monitors, it could not be simply anchored or even towed, as the camera was panning around fore and aft for 100 degrees. The trimaran was followed, just out of camera range, by what Semler de-

scribes as a "bloody Spanish Armada" of chase and support boats, which supplied the crew with necessary equipment. "Sometimes the Zodiacs couldn't come in to the trimaran because it was too rough," Semler says. "So we had some storage containers designed for camera equipment built into the trimaran and dressed to look like cargo boxes."

Regardless of the inventive use of platforms used to rig the trimaran, the lighting situation also proved relentlessly problematic. "I had to get some light on these actors," Semler says. "That's why I'm there, to make them look like Hollywood movie stars. It doesn't happen naturally, so we would have very large 12' by 12' or 20' by 20' scrims hauled up into the rigging so we could silk everything out — unless, of course, they got in the way of the sails or the wind blew them around."

"For fill, we first tried to have big lights on a barge running along side the trimaran: four 12Ks and maybe six 4K Pars, punched through a 12' by 12' scrim hot as hell. Halfway through one of the first rehearsals, I noticed that the lighting barge had drifted and all the lights were just pointed out to

sea. You can't have that happen during a take, so we needed lights mounted on the trimaran. But because waves were constantly coming up over the boat, we were all getting wet and it was too dangerous to have unprotected lights. I also couldn't use anything too big, because we couldn't get the necessary generator on a fast-enough boat. The trimaran has a generator for its own functions, but we had to run an umbilical across to a generator boat — which kept sinking, or trying to — equipped with our 5K Honda crystal generators. Fortunately, Pete Romano had all these underwater HMI lights, 1200-watt Pars. Waves could hit them and there was no danger of getting hurt. They were fantastic, straight daylight."

However, as one might suspect, such lightweight (however safe) sources did little to counteract the brilliant Hawaiian sun and the blinding Pacific glare. Confirms Semler, "Normally when you're creating fill on land in daylight — for glamour, for overriding sun, or for re-creating the sun if you've lost it — you can always cheat the sun in with 12Ks or 18Ks during the medium shots and close-ups. But with three 1200-watt

*The trimaran escapes the atoll as the Smokers attack. While some might expect Waterworld's epic scope in anamorphic, the boat's vertical shape convinced Reynolds and Semler to instead opt for 1.85:1. "In order to frame the trimaran in its entirety you would have to have these really awkward compositions," says Reynolds. The pair briefly fantasized about going full Academy, with "Kevin Costner looking heroic as all hell in a big square frame," reports Semler, but ultimately reasoned that most theaters can't even pull the 1.85 masks from their projection gates. "That was one more headache we didn't need," admits the director.*







**The 34-foot, barge-mounted Pegasus Remote III, equipped with a hot-head, at use on the "dead-fish-colored" atoll. "The stress on its pivot-point is normally tremendous," says Semler of the rig, "but what if you suddenly introduce a strong lateral force to that? You always level your cranes, but you can't level a boat. It's going to be twisting even in one-foot waves. So what happens to your camera 34 feet out?" The filmmakers wisely found out by testing the crane in Long Beach harbor — where it worked perfectly — before shipping it to Hawaii from Shotmaker in Los Angeles.**

lights? No, only in close-ups. So in the morning, the sun would be in front of us. Everything was totally front-lit, dead square. By lunch, the sun was directly overhead. In the afternoon, everything was nicely back-lit. But after four to six o'clock, the sea was white-hot water you couldn't even look into. You'd put your meter out and it would read f396 out there and here I had a 1200-watt light to fill it with!

"But there were so many other problems, with wind and everything else, that I had to just keep shooting to try to stay on schedule. On a normal picture, you try to get 20 or 30 setups on a given day, but on this we were only getting two, three, four or five setups sometimes. I remember going out there one afternoon when the conditions were perfect and thinking, 'Thank God.' So we sailed out and got set up by three o'clock. The actors came out, rehearsed and popped into the water. We were about to shoot when suddenly a jellyfish stung little Tina. We had to pull the actors out, they were drenched, and it was four o'clock. It wasn't anyone's fault, but what could you do? There were terribly disappointing days like that where everything was in our favor and a silly little thing came out of left field. Always the unexpected."

In the search for some certainty, Semler catered to his personal standard for recording the hard-won images of *Waterworld*, explaining, "I shot the picture primarily on Kodak 5293, which I rated at 100 ASA to overexpose a stop — which brought me down to 64 ASA with an 85 filter. I think all cameramen have their minds set at a certain ASA and compute at that. Having shot a million documentaries when there was no time to pull a meter out, your eyes can tell you pretty accurately where the light is. I like to bring my base rating back to 64 ASA — not on interior sets, but outdoors, because I know damn well that if I don't have a meter, or if it's full of water, I can still get it right."

"The 93 also gave me a chance to overexpose, just for safety, and maybe saturate the stock a bit to make it more gutsy. I did some tests and found it to be a bit grittier at 64 ASA."

"If we didn't need the depth to cover two actors, we'd also ND-down out there, put an 85N6 or N9 in and bring it down to an f4 or 5.6. It's just softer and throws the background out a bit more, especially when you're using a 27mm. It adds a little bit of delineation between planes, especially when you're using so few

colors in the art direction. It adds some kind of separation."

Semler also used very little filtration during the shoot. He explains, "There was no way to use grads because the horizon was always bobbing around. We used some Superfrost whites for beauty shots on the actors, but I don't use a lot of filters. I don't even carry a kit. I strictly used 85s, maybe some 81EFs if the light got too red in the late afternoon."

For obvious reasons, all of the camerawork on the trimaran was done with the Steadicam, and operator Mark O'Kane was "basically out there every day, hanging on," says Semler with a grin. "We would try to get a platform down if we could, but there were lots of times when Mark was marching across the trampoline in the center, operating the Steadicam. Even with the weight of the equipment and the bouncing of the seas, he was able to hold the principals in frame. Mark also had gyros on the Steadicam, one on top and one on the bottom, pulling horizontally and vertically, and they worked quite nicely. He had safety lines on him, because there was a good chance he might go over, and 70 pounds of Steadicam would take him to the bottom pretty quickly. Our dolly grip, John Murphy, was his safety man, but at one stage we gave Mark a tiny, 16-breath air container with a built-in regulator. That way, if he did go over, he would be able to breathe long enough to hit his emergency releases, drop the Steadicam and get to the surface."

### **Metallic Isle of Doom**

While outwardly less complex and dangerous than the open-water sailing sequences on the trimaran, scenes that took place on the massive, floating atoll offered their own pitfalls; one of the most recurring was caused by its inverted clamshell design. The atoll's corrugated steel walls, jutting some 60' above the waves, played havoc with the sunlight, throwing the inner catwalks, landings and lagoon into deep shadow by late afternoon while simultaneously providing plenty of surface for blinding hot spots. In addition to dealing with the atoll's un-



usual architecture, Semler had to capture the explosive savagery of the Smokers' attack — on paper, a 17-minute action extravaganza that allows Mariner's escape from the aforementioned cage. While stunt coordinator R.A. Rondell orchestrated the pyrotechnics, as well as teams of up to 150 stunt men and 250 extras, Semler did his best to capture the scene in the dying daylight.

Recalls Semler, "I remember one shot in particular where Kevin Costner was backing the trimaran across the lagoon in the center of the atoll. When he got to a certain point, a wall was supposed to explode behind him. So the special effects team set up a thousand shell hits on the wall, which took weeks. We rehearsed, and by the time we were ready, the sun had gone behind the wall and we were in deep shadow. We were shooting on 5293, so we got some 98 ready as well. The producers looked at me, Kevin Costner looked at me, and then Kevin Reynolds looked at me and asked, 'Are you sure it's going to match?' And I said, 'Absolutely.' There had been a couple of shots on *The Road Warrior* that I had shot after the sun had set, and when they were mixed in amongst the action cuts nobody knew the difference. This was a similar situation, where we had Costner in the foreground and all hell breaking loose behind him — a fabulous disguise for hiding changes in light. So we went to 98 rated at 500 ASA, instead of 320 like I normally do, ripped the filters out, and went wide-open at f1.9 on the Primo lens. It's *in* the picture. And because we shot it *when* we did, the explosion is so bright and fantastic. It was a hell of a thing to risk, and I didn't sleep that night, but it worked."

Recalls Reynolds, "I never thought it would match. But I saw it in dailies and somehow with his magic Dean had made it work. But Dean is such a consummate professional that it's not an issue of trust. When he would say, 'It's too dark, we're not going to get it,' it was time to go home. The director is always willing to push if there is a chance to shoot, but Dean, unlike any other cinematographer I've known, will take even more

chances. Sometimes you're forced to shoot, but you also know that the shot is going to only be on screen for three seconds; you just hope that once it's timed and balanced, the audience won't notice. Nine times out of ten it works."

A more subtle, yet potentially hazardous, aspect of the atoll shoot became apparent only after the floating set was moved from the protective confines of the harbor, where the high walls blocked out the horizon, to open water off shore, where the exterior stunt work and panoramic establishing shots were staged.

"The color of the water was a killer," says Semler, describing the metallic island's central lagoon. "We shot for seven or eight weeks on the atoll with it moored in the harbor, where the conditions were more controlled and we could get people on and off more easily. The color of the water in the harbor could be quite clear, but we would get a lot of shipping through there, and that would stir the silt up, so it varied from a fairly pale to opalescent aqua green. Going out to sea, we were about two miles up the shore and a quarter-mile out, and the water would be a fabulous, almost translucent, cobalt blue. The colors also changed with the direction of the light — front light looked different than back light, which looked different than top light. So we couldn't get precious with lighting or with water color. The atoll had to be where it was for certain shots; we couldn't color the water, and couldn't use filtration to change it.

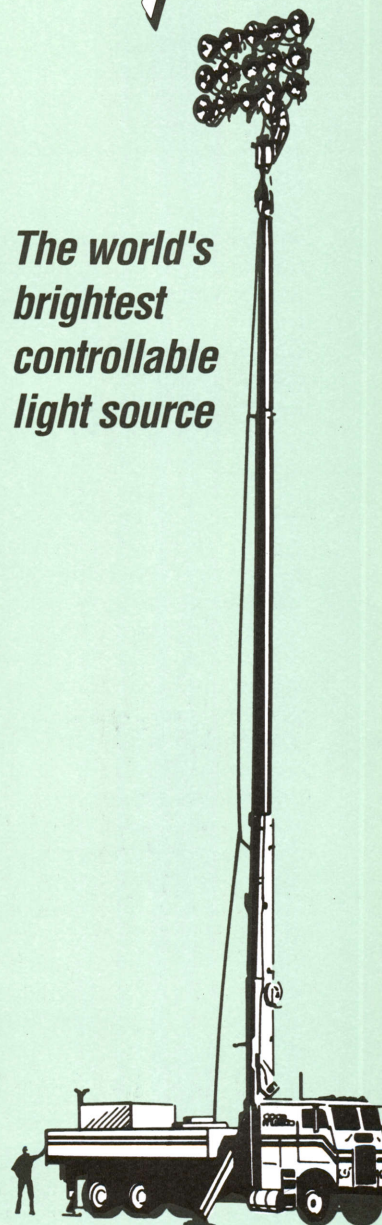
"I looked at a rough cut with our color timer, Michael Stanwick at Deluxe, who did a fantastic job for me on *Dances With Wolves*. And I said to him, 'Look, here's your chance to walk out.' We watched it and he was saying, 'Look at that, *oh!*' It was a very serious problem, but it was a bit like skies. You can have a lot of different skies in a film, changing from white to blue to clouds, and then to dark blue. But if your story is working, people won't be aware of it."

Fortunately though, water color would not figure into *Waterworld*'s few night sequences, one of which takes place on the

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trimaran — staged in the harbor, because “it would have been impossibly dangerous to shoot night-for-night on the open sea,” Semler says. The other sequence took place on the atoll.

“Night shooting on the atoll was a bit tricky, again because the set soaked up so much light. However, the atoll had electricity, which allowed some use of practicals — searchlights and stuff. So we had Par 64 spots in the watchtowers about 60 feet in the air. But running cable there was a nightmare. It was enough to run half a dozen 12Ks or the equivalent at any one point of an area the size of a football field. And because the atoll was primarily made of steel, it was very dangerous in combination with all the cables and the water. The safety side of it was a great concern, but our best boy, Chuck Sharp, did a great job with both that and the electrics.”

### Cruising the *Deez*

Finally leaving Hawaii after over three months of secretive yet well-publicized shooting, the *Waterworld* production relocated to a series of stages built south of Los Angeles at the sprawling Pacific Tube Company facility in the city of Commerce. There, the *Deez*, the dilapidated tanker serving as the Smokers’ base, was fabricated as a 600-foot, open-air, forced-perspective “miniature” on a several-acre lot. In addition, *Deez* interiors were housed in an adjacent warehouse; warehouses were heavily used as cover sets while one of the wettest rainy seasons on record pounded the Southland.

“It was just such a relief to be back on dry land, where we had more flexibility,” says Reynolds, shrugging off mention of the rains. “But we had a totally new array of complications with this gigantic ship deck.”

Constructed on pilings, the land-bound *Deez* measured approximately 150’ across at the widest point. The bridge, from which the Deacon would address his army of fanatical, oil-stained followers, rose some 75’ from the plywood deck.

“For the close coverage on the bridge — and there was a lot of dialogue and action up there with

Kevin Costner and Dennis Hopper — it was really impossible to do it outside, because the bridge was so high in the air,” says Semler. “It would also take too long to get scaffolds in and out, and the deck of the *Deez* set couldn’t really take the weight. Instead, we re-created the bridge inside. We built about five feet of bridge above and below where the actors were standing, and placed a painted cyc and a 100-foot bluescreen back behind them.

“Knowing it would have to match, I used an ND9 outdoors while shooting anything that would be intercut with the interior stage footage. So instead of shooting at f11, we were at a 4 while still using the 64 ASA-rated 5293 stock. Inside, I had hoped to get a 4 as well, but I needed a single light source and a lot of spread. So I brought in a 20K and shot straight tungsten, getting rid of the 85 filter and rating the 93 at 100 ASA. I managed to light a 50-foot portion of the bridge, with the 20K slightly to the side, and was getting about an f2.8 to 4 evenly across the front. I couldn’t have done that with 10Ks; arcs wouldn’t have quite done it, and they also would have been sputtering and smoking. I love arcs, and that’s the cleanest light you can get, but the 20K was the perfect solution. I also used some 20’ by 20’ Griffolyns to the side, with Maxi-Brutes going into them. I would rather have lit Dennis very dramatically from one side, with the other going into shadow, but there was so much going on that I was going to get caught at some point in continuity. So I filled him a little more than I would have. Having used the ND9 outside, I could also match the feeling of depth inside.”

The rotting interiors of the *Deez*, built as cover sets in Hawaii and again in Commerce, were cavernous, requiring massive wattage to bring their rusted and stained surfaces up to an acceptable exposure. “One pre-lit section in Hawaii had 80-foot ceilings, was a couple hundred feet long and about 70 feet wide — it was huge!” exclaims Semler. “But again, the sets were dark, dark, rusty, *dark*.”

The main light sources inside the *Deez* were skylights cut in the “roof” — the top deck. Large

portions of bulkhead and decking had huge sections hacked out of them, implying that the Smokers were cannibalizing their home for raw materials. To achieve the effect, Semler explains, “In Hawaii, we strung up 4K Par lights from the ceiling. You can’t point a Par straight down, so we aimed three or four 4K power spots about 20 feet across into 6’ by 6’ acrylic mirrors, punching the beams down to the floor. There were a dozen rigs like that permanently set in the ceiling; it was a lot of work to do, but it created these hot spots all the way down the interior of the ship. The pools were very extreme, about four or five stops overexposed. Then we used 10Ks and Maxi-Brutes from the side — either straight tungsten light, or I’d put ½ CTO or full CTO over them to suggest they might be a firelight. But once again, the extremes were just horrendous down there. The set just soaked up the light, so we were still only shooting between f2.8 and 4 in there; the hot spots were between 16 and 22. It was hot as Hades, so we had to shield everything with heat-proofing.

“When we were shooting in the Los Angeles *Deez* interiors, we did something different. We didn’t have as much space to work, so we didn’t use the 4Ks and mirrors. Instead, we had very narrowly spotted Maxi-Brutes, pointed straight down. Again we got a 16 or 22 in the pools, but the set was very contrasty and soaked up a lot of light. I could put a Maxi-Brute on a wall and get an f16, but it would barely register on film as a color. Fortunately, the Smokers also had fires elsewhere, drums of burning oil, and electricity in the *Deez*. So there were a few practicals.”

### The Voyage Home

While the *Waterworld* production schedule continued on from the summer of 1994 through the spring of 1995, struggling to meet a timetable based on its projected late-July release date, the media took the picture and Universal to task for a budget that had swelled to nearly twice its original \$100 million quote. But the criticism had little perceptible effect on



the production itself — the filmmakers standing by their approach to the material.

Says Semler, "I stood out there with Kevin Reynolds on one of the particularly difficult days — the wind had changed, the sun had disappeared, everyone had been stung by jellyfish and there was a volcano erupting somewhere — and I asked him, 'You don't think you would have done this on a stage with a lot of bluescreen and digital effects, do you?' And he said, 'No way, it would never feel the same.' And I agree. There were many, many days where we didn't have the right light to be shooting in, but that raw roughness is now part of the film's style. *Waterworld* is not a glossy picture, but it does have a *reality* to it. You just can't get that tangible look and feel in a studio; on the other hand, there were a lot of occasions when there was no time for art."

Agrees Reynolds, "A lot of the film was shot on the fly. We had to get the day's work done because our shooting days were so enormously expensive. But I think that raw or dirty look lends itself to the picture."

Would Reynolds consider directing another water-set film? "When I first considered doing this picture a couple years ago, I called up Steven Spielberg and asked him if I wanted to do a film set entirely on water," he recalls. "Steven said, 'You might, but I'll never do it again. *Jaws* was the worst filmmaking experience of my life.' And now I know what he means. I'll never do another water picture; once in a lifetime is enough. It's just too hard."

Looking on the brighter side, the ever-positive Semler, preparing for his directorial debut with the Steven Seagal actioner *Secret Smile*, counters, "At least we were in Hawaii. We left after about 138 million days or whatever on *Waterworld*, but if we had asked the crew to shoot for another month they would have been ecstatic. It was a great location to be stuck in."



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MAKING A FILM FROM A POPULAR book is always daunting, but when that book is a worldwide phenomenon like Robert Waller's *The Bridges of Madison County* (total sales to date: nine million copies), the pressure is multiplied tenfold. Filmmakers who tackle such a project contend not only with the usual challenges of the motion picture process, but also with the spectral presence of the unseen legions who have memorized every nuance of the source text. To take liberties with such a beloved tale is to court the wrath of the people and risk a very public flogging.

In the case of *Bridges*, Warner Bros. and producer Kathleen Kennedy went to great lengths to avoid such a fate. Slated to star Clint Eastwood and Meryl Streep, the project passed through the hands of several directors before Eastwood was invited to don a tri-cornered hat as actor/director/co-producer. Operating on the assumption that nine million readers couldn't be wrong, Eastwood and his team, including longtime friend and collaborator Jack Green, ASC, used the book as their blueprint during the shoot, and often referred to it — only half in jest — as "the bible."

While the screen version of Waller's rural romantic fantasy is certainly in a more restrained key than the author's oft-criticized prose style, it hews closely to the original plotline. Assigned to shoot a *National Geographic* spread about

wife Francesca Johnson. Having packed off her husband and two children for a four-day trip to the Iowa State Fair, Francesca offers to guide Kincaid to his assignment, but soon finds that he has rekindled her dormant dreams of romance and adventure. The duo soon embark on a brief but impassioned affair that will remain in their memories forever.

The filmmakers' quest for absolute authenticity took them on

just nine weeks. While this strategy allowed Eastwood and Streep to develop their characters in a natural, instinctive way, it also required crackerjack organization by the crew.

With Eastwood working on both sides of the camera, cinematographer Green shouldered a good deal of extra responsibility, serving as his director's second set of eyes during takes. This trust has developed over the course of a long

## A Rural Romance That Bridges Eras

Clint Eastwood and Jack Green, ASC spearhead a finely detailed screen version of Robert Waller's blockbuster novel, *The Bridges of Madison County*.

by Stephen Pizzello

the road to Madison County and some of the actual locations in Waller's book, including the Roseman and Holliwell covered bridges. Much of the picture's principal photography took place in a reconstructed farmhouse that served as the central set, while

additional sequences were shot in the towns of Winterset and Adell. Obsessed with details, the production team received full cooperation from the Iowa Film Commission, the local Chamber of Commerce, and the

Madison County Covered Bridge Preservation Society.

Eastwood strove to foster a sense of the relationship's gradual buildup by shooting the film in sequence, over a period of

association spanning 24 films; as Eastwood has advanced from action star to respected director, Green has gone up the ladder from camera assistant to operator to director of photography. "Clint and I have developed a system for when he's in a scene and can't watch other actors," says Green, who has served as director of photography on eight Eastwood films: *Heartbreak Ridge*; *The Dead Pool*; *Bird*; *Pink Cadillac*; *White Hunter, Black Heart*; *The Rookie*; *A Perfect World* and *Unforgiven* (which earned him an Oscar nomination for Best Cinematography). "I watch carefully for him, and when he comes out of the scene to be the director, I give him full feedback like a tape recorder. I tell him what happened as best as I can, without putting any subjectivity into my descriptions. Every now and then, I will be subjective if I think he needs that input, but I try not to direct; I try to give him a mirror of what's taken place on the set."

"Clint won't work with



Director/star Eastwood and longtime friend and collaborator Jack Green, ASC discuss strategy on Francesca Johnson's porch.

the scenic covered bridges of Madison County, globe-trotting photographer Robert Kincaid loses his way on Iowa's backroads, which conspire with fate to deposit him on the doorstep of house-

Photos by Ken Regan/Camera 5, courtesy of Warner Bros.





videotape playback," Green explains. "He works with his feelings of what went on in the scene, and the feedback I give to him after he's finished the scene. He's very instinctual that way. It's part of our agreement that we'll always work on an intuitive level, in every aspect — the lighting, the directing, the acting, and the way we are as human beings on the set. You don't think twice about making a decision; you go with your gut. If you don't have to question yourself, you can just go on and do the work. There's none of this 'committee meeting' stuff, which just wastes valuable time. The way we work is very, very liberating."

That sort of creative freedom is what initially drew Green into the field of motion pictures. Growing up in the San Francisco Bay area, he was introduced to photography by his father, who had set up a small darkroom in the family home. "Once I reached a certain age, he'd allow me in there, and he built a little contact printer for me out of wood, a light bulb and opalized glass," Green recalls.

"I'd make my own little contact prints and do my own developing in his chemical baths. I did this many times over the years, and as a result I have this wonderful affinity for the smell of chemicals and the darkroom environment."

The elder Green encouraged his son to learn by doing, and the youth became interested enough to take some photography courses in high school. When the younger Green eschewed a college education, his father suggested that he join the traditional business of his family — barbering. After attending barber college during his last year of high school, Green began cutting hair in one of his family's six shops. At 21, he was made manager of the Green clan's newest shop, and he settled into a daily routine.

In one of life's fortuitous turns, Green encountered a customer named Joe Dieves, who happened to be a motion picture cameraman from San Francisco. Dieves and Green struck up a friendship that could be described as the "buddy movie" version of *Bridges*

of *Madison County*, with Dieves playing the role of the worldly Kincaid. "This was in the days when people came in for haircuts every two weeks, so I saw him regularly," Green reminisces. "We talked images, and he was just wonderful to me. At first I was interested in what he did for a living because it involved photography. After about six or eight months of cutting his hair, I worked up the nerve to ask him if I could go watch him work. The criteria was that it had to be on either a Sunday or Monday, but fortunately union barbers got Mondays off. One Monday, he got a job, and he asked me to come along as his assistant."

The job involved shooting air-to-air footage of the first DC-8 on the West Coast. Green's job was simple enough: Dieves asked him to monitor the speed of the Arri S camera and make sure the rheostat on the back didn't drop below 24 frames per second. But the experience was enough to inspire a major life decision. "I was hooked," Green states simply. "The job had all of the elements that were inspir-

*In striving for absolute authenticity, the filmmakers used the same bridges that served as locations in Robert Waller's novel.*





**Above:** Eastwood checks an overhead lighting rig in the practical kitchen that served as the film's central location. **Right:** Soft, sourcey lighting (note fixture over false dropped ceiling) lent romance to this slow dance between Eastwood and Meryl Steep.

ing to me — taking pictures, and the excitement of working in the movie business. After spending time standing around cutting hair, getting out to do something like that was pretty darn thrilling. I got some more jobs with Joe after that, and it was only a matter of time before I stopped being a barber."

Green soon pursued jobs in San Francisco as a camera assistant on industrial and educational films, documentaries, and commercials. He later landed a job with Wescam in Los Angeles, and wound up working on the aerial unit for *Tora! Tora! Tora!*, which gave him his first taste of epic-scale filmmaking. Following a subsequent stint with Tyler Camera Systems, Green served as an assistant to future ASC members Don Morgan and Michael Watkins. He also worked for Rex Metz, who invited him to serve as B camera operator on *The Gauntlet*, directed by Clint Eastwood. Green had previously served on the aerial units of two other Eastwood pictures, *Play Misty for Me* and *The Enforcer*, but *The Gauntlet* was the first time he actually found himself within shouting distance of the star.

That job led to more work with Metz, including the A camera slot on *Every Which Way But Loose*.

According to Green, he and Eastwood really began clicking on the actor's next project, *Bronco Billy*. "From that point on, Clint and I developed our particular way of working together, which is almost subliminal," he says. "We're so well attuned to each other that we each know what the other will say before he says it."

All in all, Green served as camera operator on 14 Eastwood films. The one rough spot was *Firefox*, on which Bruce Surtees served as Eastwood's director of photography. "To be perfectly honest, at that time Bruce just didn't like me," Green says with candor. "Clint and I had established a relationship that sort of infringed upon the traditional hierarchy on the set. But Bruce and I did four pictures with Clint, and by the end of the last one we were really good friends. Clint and Bruce and I would discuss each setup, and distill all of our ideas. When Bruce was hired to shoot *Beverly Hills Cop*, he invited me to be his opera-



tor, and we commuted to work together every day."

Green now regards Surtees as both a close friend and the single biggest influence on his photographic style. "Every time I light a set he's a part of me," Green relates. "I loved the minimal amount of lighting he used. One thing I learned from Bruce was to leave as small a 'footprint' as possible on the work. I like to keep my work as natural as possible while still making it dramatic. Some of Bruce's

films, like *Beverly Hills Cop*, have full, rich lighting and production, but on other projects he's gone completely the other way, to the point where he's actually extracting light. He often uses more of a Rembrandt style, whereby a scene might have a single light source and very little else. He usually works at a very low key, and I think his photography is just brilliant."

Prior to Green's experience on *Beverly Hills Cop*, Eastwood had asked him to move up to cinematographer for *Honkytonk Man*. Not sure that he was ready, Green had politely declined, knowing that he'd get another chance. Worried that the inevitable promotion would damage his relationship with Surtees, Green approached his friend after they'd finished working on *Cop*. "I told Bruce, 'You know, one of these days Clint's going to ask me to move up again, and I don't want it to affect our friendship.' His reply was, 'Jack, don't let it bother you. I moved up over somebody, you're going to move up over me someday and someday somebody else will move up over you. That's life in this business. It would be a wonderful thing if that could happen for you.'"

Surtees' magnanimous attitude led him to approach Eastwood on Green's behalf, which resulted in the latter's promotion to director of photography on *Heartbreak Ridge*. "That's what good friendship is all about, and that's how things get passed on in this industry," Green maintains. "After Bruce did that for me, I felt I should do something to pay back Joe Dieves, but Joe told me, 'The best thing you can do for me is to pass along what I taught you.' Bruce and Joe, along with Don Morgan, were instrumental in forming my attitude about giving something back to the industry, and never holding back or coveting my information."

That said, Green readily offers up his expert assessment of *Bridges*, which followed on the heels of his well-deserved Oscar nomination for *Unforgiven*. "After working on a project like *Unforgiven*, you never think you can do something as beautiful or



interesting or creative, but *Bridges* was equally fulfilling," he says. "The more times Clint and I work together, the fewer times we have to speak about the work. Our discussions now center more on the character of the work rather than the physical or technical aspects of the production. I feel much more a part of the creative nucleus, rather than just a supporting member of the process."

In prep, Eastwood and Green agreed that *Bridges* should be shot in spherical format (1.85:1) rather than anamorphic (2.35:1). "We used Panavision equipment on this show, including Platinum cameras and Primo lenses," Green recounts. "Clint and I chose the spherical format with great intent. We didn't want the picture's format to mislead the audience. When you see a picture in 'scope,' it's a subliminal message to the audience that it's big. With a spherical picture, the audience is more likely to feel that it's an intimate picture. Clint and I agreed completely that this was a spherical picture."

"On *A Perfect World*, I lobbied hard for anamorphic," he adds. "Every story has its own format requirements. Clint was originally convinced that *A Perfect World* should be spherical, but that film had lots of car shots with windshields, and shots inside long, narrow trailers. I made my case for anamorphic, and Clint agreed in the end. But I don't think it was that my opinion was necessarily more valid than his; I think Clint was just less opinionated on that particular issue."

The cinematographer's main film stock on *Bridges* was Kodak's 5293, which he used for almost every daylight scene, whether interior or exterior. For scenes in which he wanted to work at a lower light level, he employed 5298, which he found to be a smooth complement to the 93. His workhorse lens was the Primo zoom, but he employed fixed Primo lenses when he needed lower stops. "I find it difficult to work at anything lower than a 2.8, so I try to get things to 2.8 or higher," he says. "I find that you get more pleasing focus and a more pleasing depth of

field with a higher stop."

Green stresses that the filmmakers' visual concepts came straight from the book itself. "When Clint and I talk about a picture's concept, we don't engage in a lot of cerebral discussion," he says. "Ours is a very visceral reaction to what something should be. When you read a project that has a huge impact on you, and you know exactly what it has to look like, you just let the imagery come out of the words and descrip-



tions. I had no question in my mind what this film was going to look like, because I had read the story and knew what Clint had seen in the story. The book describes the look of the movie to a tee."

To faithfully render the book's descriptions, Eastwood and co. decided to use actual locations from its pages. This approach did create a few logistical difficulties, however. First, the real bridges detailed in the story, which takes place mostly in 1964, were surrounded by some modern elements that didn't jibe with the tale's era. Eastwood and Green solved that problem through a careful choice of angles, but they

also confronted less-than-ideal lighting conditions in the natural settings. "The sun angle on the bridges was simply what nature provided, rather than something we could design," Green recounts. "We had to formulate a shooting schedule based around optimum sun time and light time. Clint went for it 100 percent. He loves good-looking and beautiful images too, so that's the way we presented it to him. We'd say, 'This bridge is going to look beautiful at these

times of day; we can shoot for awhile, go do some traveling shots, and then come back later.' Clint was very amenable to making the schedule work around the best light for these practical locations."

Scenes involving the house set and other practical locations involved a different kind of planning. Green's strategy evolved from a careful consideration of the story's dramatic arc, which shifts back and forth from present-day to 1964. He worked out several basic lighting schemes: one for present-day scenes involving Francesca's adult children; another for Francesca's routine family life before Kincaid's arrival; and a third for the romantic scenes. "I wanted the story to be lush and warm when the two characters were together and falling in love, but I knew that this look had to contrast with the two other looks," Green says. "Francesca's previous life with her family was not so pretty and attractive, so the love story had to have fuller visuals. I wanted the modern scenes to start out being reminiscent of the brother and sister's childhood,

*For candlelight scenes, Green used small sources, such as a 200-watt peanut light, to augment the loving glow cast by the candles themselves.*



Near right: A crane arm was used to capture Francesca's reverie as she considers her feelings for Kincaid. Below right: Rainmaking rigs were deployed for the film's climactic sequence. Shot at dusk over a period of three nights, the melancholy interlude required Green to balance his light on a minute-to-minute basis.



which had a much colder look than the love story — harsher, more unfriendly, with deeper shadows. For those sequences, I used less fill light, and I occasionally did some bad lighting on purpose, such as giving people shadows that didn't complement their faces. It was important to me that the audience should feel a bit put off by those images — not revolted, but just a bit disturbed by the feeling they created. I didn't want the picture to look ugly, but I wanted to lend certain scenes a subliminal sense of uneasiness. When you plan out a lighting concept, you have to consider the overall picture, which is like reading a book. You can't just go in there and say, 'This whole movie's going to look beautiful,' because then you're not storytelling. There has to be some sense of contrast.

"To that end, I started out garish, a little bit overlit, with some irritating angles of light. The images are still good-looking, but there's something about them that bothers you a bit, on a subconscious level. For instance, there's a scene in which the brother and sister are sitting at an outdoor picnic table at night, lit by the headlights of their car. I used little catches of light in the frame for the big establishing shot, but when you get into the close-ups, it's not a pretty lighting style. We did that to make the love scenes stand out, to help give the audience a sense of this overwhelming attraction Kincaid and Francesca have for each other."

Green achieved this sense of contrast via careful manipulation of his fixtures. For scenes involving the brother and sister as adults, he kept his light pure white and slightly cold. For the period scenes of the family before Kincaid's arrival, he warmed things up just slightly with filtration on his lamps (because Eastwood "abhors" filtration on

scenes, such as the candlelight and firelight sequences. For romantic scenes in the kitchen, we put ½ CTS or maybe ¼ CTS on tungsten lights; on our set lighting we were using ½ CTS. So we were getting very warm, but to the yellow side, not to the red side. There were a couple of scenes where we went to the red side, such as the dance sequence in the kitchen; that was very slightly CTO on a couple of the units, but we mixed with CTS. I wanted the environment to be warm, but not hot — a warm glow of gold. In my mind, it was the difference between being lyrical and lurid. We wanted the relationship to have a kind of health about it. Given the moral tenor of the times and the small town in the story, this was a relationship that was generally frowned upon, so I naturally tried to steer clear of any lurid implications in the lighting."

These changes in lighting helped Green and Eastwood overcome one of the project's inherent challenges, which was to make the main area of action, the kitchen set,



the camera, he kept his lenses unfiltered throughout the shoot). To create the daylight coming through the kitchen doors, Green used an HMI light with no correction. For the interior lighting, he deployed an HMI filtered through a ¼ orange CTS.

When the love story began, Green warmed his filtration. "As the affair progressed, we went further in that direction until we were finally using ¾ CTS on tungsten light for some of the romantic

look a bit different in each scene. "I mean, it was basically a box with windows and doors," Green says with a chuckle. "To make things interesting, you have to work with the actors and the staging, and play with the way the light looks. It was a practical location, so we weren't able to move the walls around; everything we did had to be within the confines of this one room."

A good example of Green's creative approach to the confined space is the scene in



which Eastwood and Streep engage in a romantic, slow-dance sequence played out in near-silhouette. "We had established that there were lights behind them on the wall; there was a practical over the sink, over the stove, and one on the back wash porch. Those were the only sources other than a bit of 'moonlight' coming in through a side window. There was no light to the camera side of them. We kept to that camera angle, because I didn't want to go around to the side that had a lot of light. We did go to the side, but just briefly. We wanted the silhouette effect because the scene was about faces getting closer together, and we didn't want to show too much of their expressions; we wanted to leave room for the viewers to add something from their own imaginations. Clint and I didn't want to violate what readers of the book would anticipate the picture to be. If we had a love scene, we didn't show the sex. When you're lighting a film like this, there are some scenes that require you to add what input you deem necessary. In other scenes, you *extract* your input as much as possible to allow the viewers their own vision."

For other scenes, Green added visual interest by simulating the changes in light over the course of the day. "The great thing about working in the movie business," he adds, "is that it's all interpretive. I can say, 'Dusk looks like this to me,' and then just duplicate what's in my mind's eye. Prep helps with that. When we visit the locations, I see the environments in every possible daylight situation so I'll be prepared. I knew what that kitchen would look like at 7 a.m. with the sunlight cracking through the windows, and at midday, and at the end of the day. For example, there's a different color in the shadows at sunset than at sunrise; I find sunrises to be a little more golden, and sunsets to be a little more red due to the atmospheric material that's dissipated during the course of the day. That's where the change from CTS to CTO came in, but there was always a mixture. In the morning, CTS might have had a tiny bit of CTO in it, and in the evening, it might have been CTO



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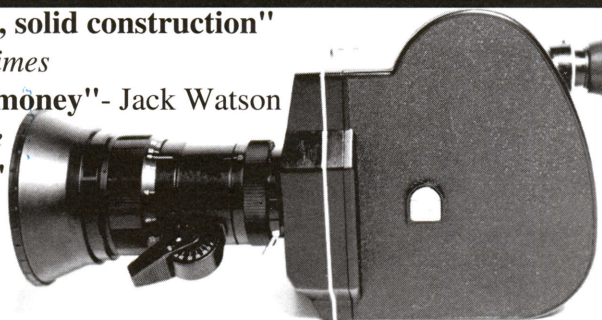
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with a bit of CTS. I didn't want to lose the continuity of those yellow-gold hues. To me, the middle of the day is the coldest, even though your eye perceives it as the hot, warm part of the day. That was when I influence the look the least with color and used a palette that was close to white, with a tiny bit of yellow."

For nighttime scenes, Green created a romantic moonlight look with the help of a local company well-known to cinematographers everywhere. "Fortunately enough, we were very near Musco's home base in Iowa," Green relates. "They were able to hop right over and be with us on short notice on a couple of occasions."

Musco Lights provided wide swaths of background lighting for several exterior scenes, including one in which Streep and Eastwood take a short walk outside the house. "We used Musco through the entire background and across the house," Green states. "Of course, we used more control for the area they were walking through. We also used Musco for a scene in which Kincaid drives away from the house at night; the field beyond the house and the rest of the exterior was lit entirely with Muscos."

Green notes that every cinematographer has his own favorite recipe for moonlight. "My version of moonlight is not blue to the degree that an uncorrected HMI provides blue. That's really blue when you see it on film, and to me it's very unlike moonlight and very irritating. I like moonlight to have just the tiniest hint of blue, which makes it just different enough so that the audience doesn't see it as just another practical light. To create moonlight, I correct HMI  $\frac{3}{4}$  back toward tungsten — sometimes  $\frac{1}{2}$ . I never go uncorrected, because it doesn't look good on faces."

Faces, of course, are key in a love story like *Bridges*, and Green was working with two of the most renowned stars in Hollywood. Keeping Eastwood's "no filtration" caveat in mind, Green sculpted the actors' faces with lighting and some very subtle help from the

makeup department. "Clint generally works with no makeup, but we toned him just a bit on this picture. Clint is darn near bulletproof. He's very hard to light badly; you can put no light on him, or a little tiny scratch of light on him, or a half-light on him, and he'll still look good. Meryl also had incredibly minimal makeup, but she has the most marvelous face structure and skin that you can imagine."

Although Green kept the lighting on the actors fairly naturalistic throughout the picture, he took special pains to make Eastwood's entrance in the story memorable. "I knew that when Meryl's character saw Clint for the first time, he had to be remarkable," Green says. "When he steps out of the truck for the first time, we placed him in a natural backlight that made his hair just white hot, like a lion's mane. We shot that scene at the end of the day when the light was just perfect. I wanted the audience to know why Francesca had to draw her breath. I didn't want to overlight him, though; I tried to keep the backlight side of his face down enough so it didn't look lit. We just bounced regular sunlight back at him."

In Streep's case, Green found that the actress was willing to sacrifice glamour in service to the story — a quality he applauds. "Meryl is not as concerned with her appearance as a lot of stars I've worked with," he avers. "She's not a movie star, she's an actress, and there's a big difference. Meryl doesn't want to look bad, but she doesn't mind looking natural. A movie star has to look good all the time. You always have to give them great light, and if you violate that, you violate what they are as movie stars. I love real actors, because as long as you don't make them look ugly, and as long as your lighting fits that natural moment in the scene, you can't violate their boundaries in terms of 'good-looking' or 'bad-looking.'"

Green notes that in many instances, he lights environments rather than faces, which helps speed things up on the shoot. "Clint likes to move quickly," he explains. "We'll generalize a cam-



era angle for a master, and generalize a lighting scheme for the environment. Once the environment looks good, we'll fit the actors in there. The first time they walk onto that set, if Clint wants to roll on the rehearsal, we'll be able to do it. I may clean up the closer angles, but I will almost never re-do the original master. If the environment looks good, the actors will look pretty good within it. If someone catches fire in a rehearsal, you want to get it on film. At least 50 percent of the time, we're printing a rehearsal — and that goes for nearly every picture I've worked on with Clint. Sometimes the ratio varies, of course. On this picture, it was a bit less, because Clint had a lot of thinking to do in terms of his own character. This was a new behavioral mode for him, and he really had to concentrate; on this picture, he allotted more concentration to his acting skills than his directing skills. He had to react to another very fine actor, and he knew he had to place his acting skills in the forefront of his concentration. I think he was enjoying acting more on this film than he has in a long time."

Green's lighting experience enhanced the romantic interaction in the film's more intimate scenes. For a two-shot of Eastwood and Streep during a candlelight dinner, he augmented the look of the candles with small, carefully set fixtures. "There were two candles placed between them, and a little flower spray in a vase. We put a little 200-watt peanut light, dimmed down with a bit of CTS on it, behind the vase to simulate the candlelight for Clint; then off-camera, to Clint's left at the end of the table, we placed a dimmed-down tweenie with a ½ CTS on it to serve as the candlelight on Meryl. I placed it a ways off to keep the candle shadow off her face and to create a nice molding character for her face, rather than lighting her flat from right behind the candle."

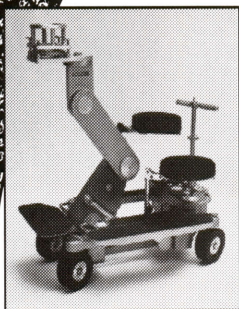
Much more difficult for all concerned was a scene in which the two lovers share a candlelit bath. To make things easier on Streep, Eastwood cleared the set of all but a few key crew members — Green, the first assistant director, and a



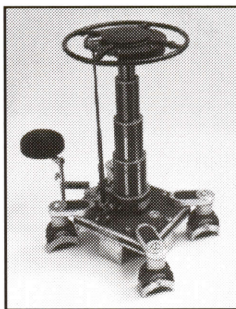
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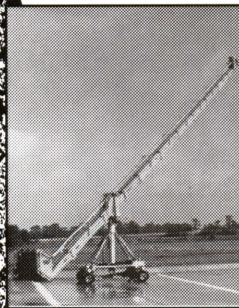
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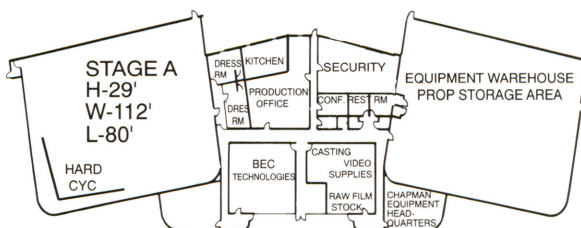
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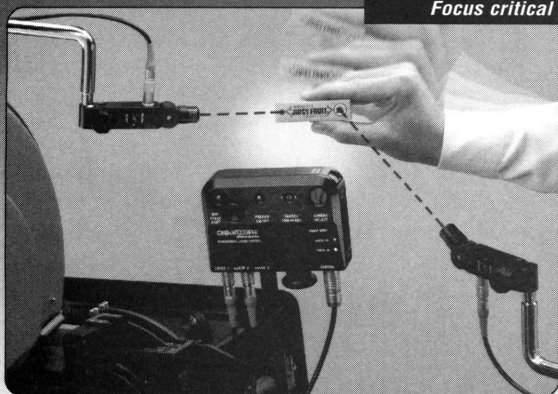
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camera assistant. "That scene was a toughie," Green admits. "I actually lit right through the candles with a very soft, full source. We used a boxed-in bounce light. I think it was a Baby with ½ CTS, bounced into a covered white card. The card was about 24" by 36", and we just flagged it off by bending the corners. It was such a big source that it went right around the candles without creating shadows."

For a fireside love scene, Green deployed a clever gimmick light introduced to him by English gaffer Jonathan Lumley. Green uses the rig to simulate flames when the fire is off-camera; he made frequent use of it to simulate campfires in *Unforgiven*. "It's a combination of 12 bulbs, three dimmers and three flicker generators," he explains. "Four bulbs are set on one dimmer, four more are set on a flicker, and so on. The bulbs go on and off at varying times, and it gives you a terrific, controllable volume of light. I use standard household bulbs. Since we're putting colors on them, we don't have to use corrected bulbs. I vary the bulbs from 75 watts to 300 watts. I also vary the colors on each bulb, from ¼ CTS to a full CTO. It's the closest thing to simulating real firelight without putting in a big firebar."

Simulating fire may have been a snap, but creating rain for the film's heart-wrenching climax was, according to Green, the most difficult part of the shoot. "We kept getting sunshine, and I didn't want the climax to be a sunny rain sequence," he says. "In other movies, a sunny rain sequence might be fine, but it didn't suit the mood of this story. Both Clint and I felt very strongly that we needed a cloudy, overcast, rainy day. We saved the sequence in the hope of getting a rainy day, and we knew we'd have to move over to the town at the first sign of the right conditions, but we never got it."

"What I finally chose to do was to shoot it at dusk over a period of three nights. We had big cranes with big arms on them to create the rain. It was one of the few times we really had to plan out a sequence. We only had



about 30 or 40 minutes to shoot, and if you're really together you can get maybe four shots in that amount of time.

"That scene also had a lot of cuts in it. One day we got lucky and the clouds came in early, so we had a bit more time. We shot that whole sequence in a total of just under four hours. We had the camera positions already built, and we moved from one to the other very quickly. Everything had to move just like clockwork, but I had a great crew on this show — Colin Campbell was my gaffer, Dick Deats was the key grip, Steve Campanelli was the camera operator, and Bill Coe was the first assistant. They're all consummate professionals, and they really rose to the challenge.

"Keep in mind that on the rain sequence, we had to balance the light every other minute during scenes. I would start with bigger lamps than I needed and put scrims on them as the light got darker. We were balancing our foregrounds to a background that was changing every five minutes as the sun went down. We used 2500 HMIs — much more light than we needed — but we scrimmed them way down as the day went on. After awhile there was almost no light at all coming out of the lamps, but that was okay, because it was supposed to be dark outside. We had very little light on the actors' faces inside their respective pickup trucks. We were working sometimes to where we were wide open on the lens with no reading at all on the light meter. It was really tricky, but I think it works very well in the finished film."

Green's next two projects are radical departures from the romantic tone of *Bridges*. Due in September is *The Net*, a thriller directed by Irwin Winkler; currently, Green is on location in Oklahoma photographing *Twister* with director Jan De Bont.

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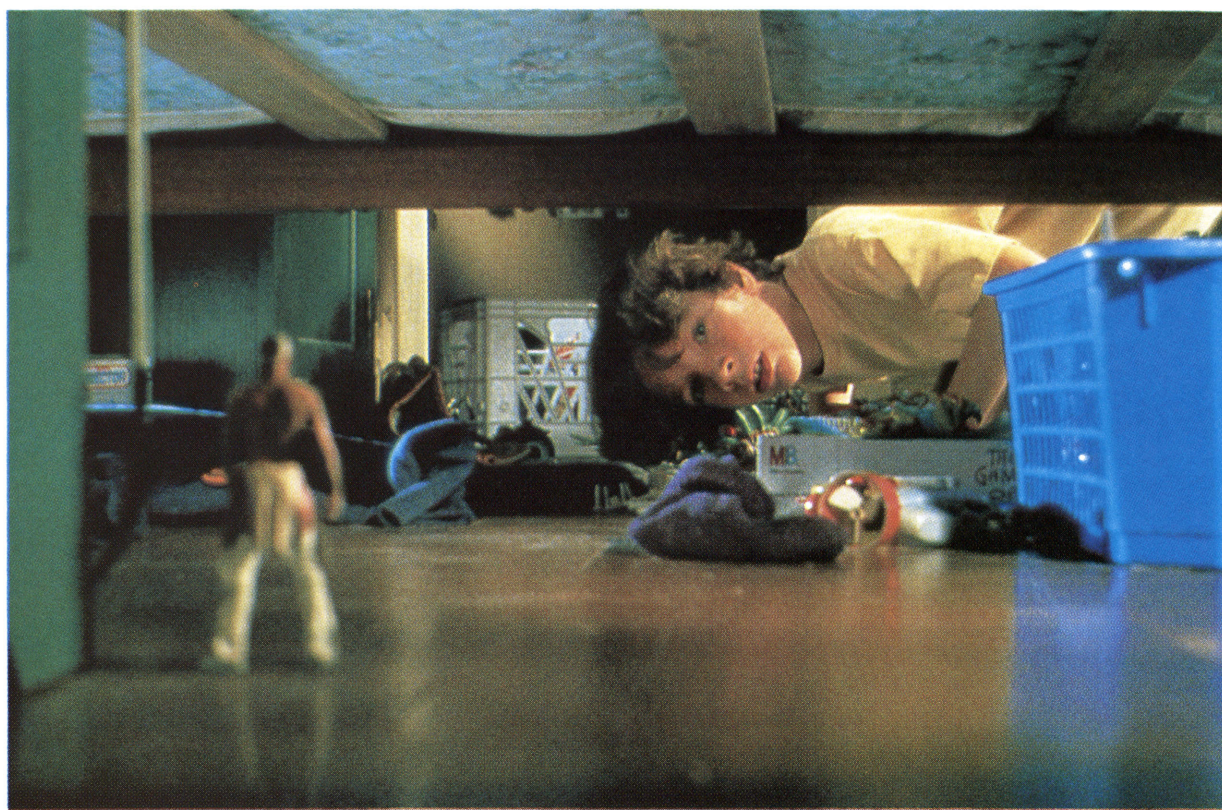


# Indian in the Cupboard's Cinematic Intimacy

For director Frank Oz and cinematographer Russell Carpenter, ASC, a simple game of cowboys and Indians takes on a whole new light.

by Chris Probst

*Omri (Hal Scardino) spies the Indian (Litefoot) under his bed. Note the delineation of focal planes between characters, which adds depth to the bluescreen illusion. "Often we had to control what was bouncing off the bed or floor," explains Carpenter. "So we would put Duvateen on the bed and floor so the light wouldn't bounce unnecessarily around the room."*



Photos by Zade Rosenthal, courtesy of Paramount Pictures

Childhood is often viewed as a time for discovery, exploration, and testing the boundaries of imagination — when one's bedroom is a magical landscape for infinite adventures. Capturing that sense of wonder and simple elegance, screenwriter Melissa Mathison adapted the popular children's novel *The Indian in the Cupboard* by Lynne Reid Banks and touched the narrative sensibilities of director Frank Oz.

Oz sought to bestow the film with emotions and themes that applied to all ages. "I don't

know what the hell a 'kid's movie' is," says Oz. "If a 'kid's movie' means less sophisticated, more broad and not as subtle, then I don't believe those things. I think kids live more intense, subtle and sophisticated lives than we do. I made this film for what I felt was powerful, layered and subtle from Melissa's script. I know kids don't like to be talked down to, so I made this film for myself, and [I believe] they'll come up to it."

*The Indian in the Cupboard* tells the story of a boy named Omri (played by relative newcomer Hal

Scardino), who on his ninth birthday receives a magical cupboard that brings his plastic toy Indian figure to life. Through his interaction with the lilliputian Indian, Little Bear (played by Native American rap artist Litefoot) and the tiny cowboy Boon (David Keith), Omri and his best friend Patrick (Rishi Bhat) learn the values of another culture and the responsibilities of one's actions.

"I was approached with the project after coming off a completely different experience with *True Lies*," says director of photog-



raphy Russell Carpenter, ASC, whose credits also include *The Lady in White*, *The Lawnmower Man*, *Hard Target* and *Pet Sematary II*. "I very much wanted to help envision a film that wasn't either pyrotechnically- or star-driven. I felt lucky to latch onto a story with a great heart at its center."

In designing a look for the film, Oz and Carpenter discussed the quality of lighting they believed the story mandated. "Russell and I were both fans of *Searching for Bobby Fischer*," reveals Oz. "I didn't want any flat 'kid's movie' lighting. I wanted different light and dark values, so we used *Bobby Fischer's* lighting as a place to step from — in and out of shadows and such. I wanted it very sourcy. I like source lighting — having areas of highlight. I don't like big areas of light."

"I wanted to see if I could handle the challenges of shooting in a very small arena," Carpenter relates. "And of course this was an incredibly small arena — basically a boy's bedroom. I think 80 percent of the picture, if not more, takes place in one modest little room — and there's not much visually going on in that bedroom, which is the way it should be. Frank didn't want to make it a *movie* bedroom. He wanted it to be a real kid's room."

In stark contrast to the filmmakers' intentions of making a simple tale was the effort required to bring *Indian* to the screen. With two of the principal actors appearing a measly 3" high, the film's effects roster tallied an excess of 130 shots. Eric Brevig, the film's visual effects supervisor and second-unit director, explains, "Frank's goals and mine were the same. We didn't want the effects shots and the three-inch characters to draw attention to themselves. We wanted the movie to look as if it was filmed by a normal film crew who just happened to have three-



inch tall actors in certain scenes."

For Carpenter, *Indian* offered more challenges than will meet the viewer's eye. "Because the script read as such an intimate little film," he admits, "I was somewhat blind-sided by the enormity of the

had to ask myself, 'Okay, what happens when we get to the oversized or bluescreen sets; are we going to get this same feel?' There are certain things that happen in that low-light range that don't occur at a T5.6 or T8. It's a shame; some of the magic eluded us because of the stop we were dealing with."

To execute shots that involved the 3"-high characters, Eric Brevig coordinated detailed communications between Carpenter and bluescreen director of photography Chuck Schuman, who was photographing the composite shots. "I found that in terms of lighting motifs, I had to make sure that Chuck or I could re-create on the bluescreen stage what I was doing on the small stage," recounts Carpenter. "I soon found myself painfully opting for simplicity over any ornate or elaborate lighting scheme, because if I used a curtain pattern, which is easy to produce on a normal-sized stage, it became a major ordeal on the oversized stage. We found out very soon that there are innumerable, subtle little clues that tell the audience when they are looking at an oversized set. Those clues, whether lighting, texture, or choice of lenses, give away the gag. We knew that in normal photography, if you shoot a

**Above:** Omri plays in the New York courtyard set. A warm sidelight was delivered via Condor-mounted 20K tungsten units with 1/2 CTO.

**Left:** Cinematographer Russell Carpenter, ASC. "Indian was definitely a film where we did make a conscious decision to not go for the sort of sizzle of, say a Jim Cameron film, where you are trying to get some sort of explosive lighting technique in practically every frame."



technical problems. We all were. We had to do some fast dancing to make sure the different techniques gelled so that the story was told in a seamless manner."

In his attempts to create a magical look for the film, Carpenter carefully observed light's interaction with its environment. "I started to look at the way light bounced around rooms, especially in terms of some of the marvelous things that happen from secondary light — the light that bounces off a bedspread or a floor. However, I





**Above: A completed composite of the 3" cowboy, Boone (David Keith), sitting on the knee of Patrick (Rishi Baht). Right: Seen on the bluescreen stage, Keith rests atop an oversized knee topography mock-up which rotated to match a camera move made with the full-sized actors. Cross-faded keylights kept shadows on Keith's face consistent through the rotation. "All of the plates and bluescreen elements were shot in 8-perf VistaVision," says Chuck Schuman.**

three-inch Indian from about five inches away, even if you are shooting at a T16, you have virtually no depth of field — you can barely keep this little figure's eyes and ear in focus. We wanted to re-create that sense of rapid fall-off of depth of field on our large stages. That usually meant we would be shooting our six-foot Indian actor on the oversized sets with a 400mm lens placed 160 feet away — virtually on the other end of the stage — and be shooting him wide-open. It was a focus puller's nightmare, but those were some of the considerations that we had — how to keep the optics the same from a regular set to our bluescreen and the oversized sets."

Carpenter chose to shoot *Indian* with Panavision cameras and Primo lenses and "opted for a very conservative approach compared to anything I had done on other films. That meant shooting Eastman Kodak EXR 5298, a very stable stock which I conservatively rated at ASA 320. For exteriors I used either 5245 or 5293. I used very little filtration except for a minor Super Frost, like a 00, because I knew that practically every scene was going to go to bluescreen and I didn't want to trip [the effects team] up too badly when they tried to composite these scenes together."

"Since the story took place



over maybe four or five days in the boy's room," he adds, "I had to try to figure out a way to make the room look a little different every time we went in there. There are quite a few different ways you could represent morning: by the way the light might change from pre-dawn to dawn, through that first shaft of morning light, into afternoon, and then back down toward evening. So I would try to suggest that movement throughout the day by changing the color temperature and the direction of the light."

"We had a night look, a day look, and a magic-hour look pre-determined," expands gaffer Rick West. "We didn't have much of a base level hard in the room. Because the room is so small, we didn't have enough space to light

the room from above in three different ways. Outside the boy's room on the stage we had some tungsten fresnels prepped with full CTB to light up some of the exteriors, and we had Griffolyns hung over the courtyard to bounce Baby 10Ks from the green-beds, which would be either clean tungsten, 1/2 CTB, full CTB, or 1/2 CTO, depending on what scenes we were trying to do. We also bounced 20Ks into Griffolyns on 12-foot-high scaffolds."

"In addition to our 10K tungsten units, which would be our sunlight, we used KinoFlos — which are a great soft light — for very tight space situations," says Carpenter. "Very often the boy would be looking down into the seed tray [where the Indian has built his log home]. There was virtually no way to light [the boy] with a conventional instrument, so

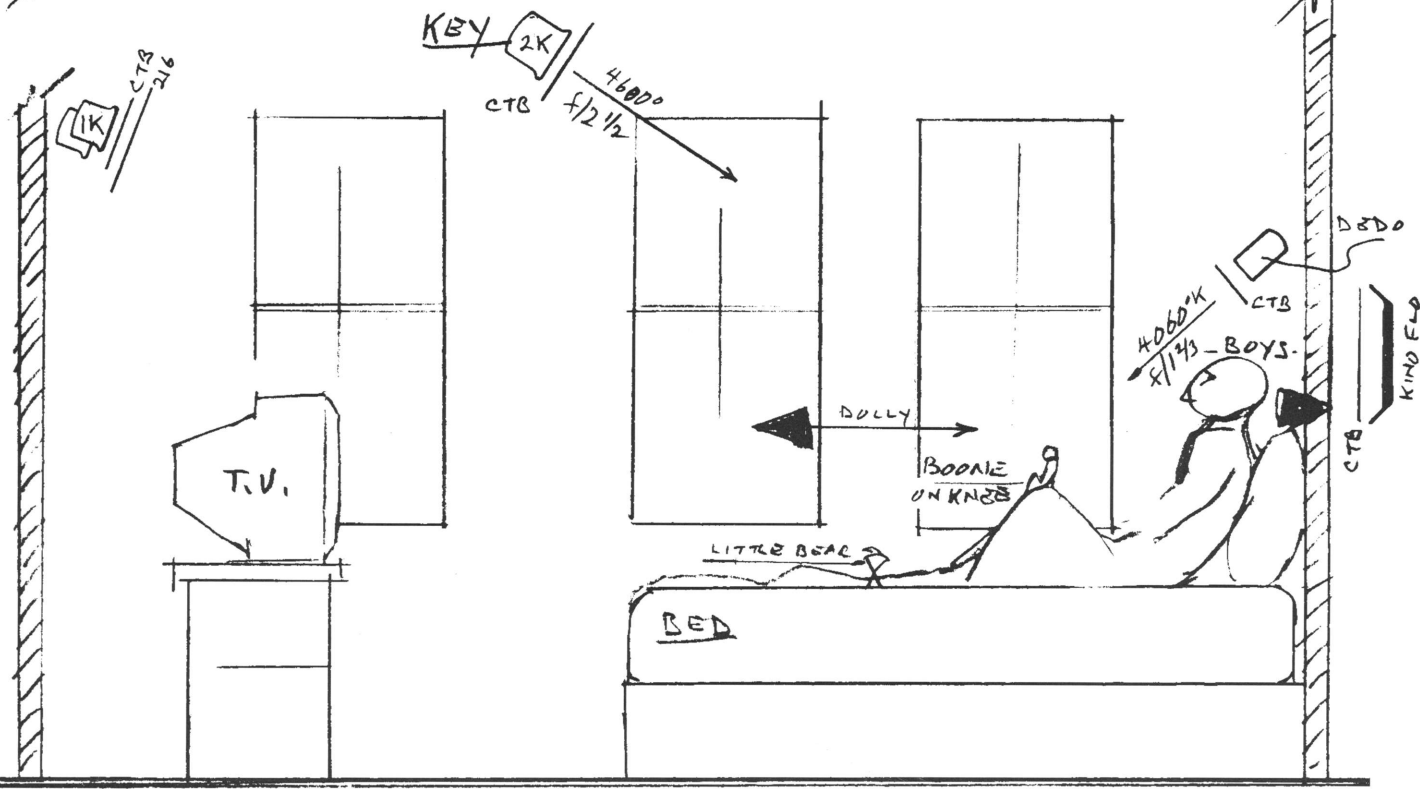
we would put MiniFlos out on the floor or just outside the range of camera so that he would be looking into a bank of MiniFlos."

Added to Carpenter's list of headaches was the task of handling both children and animal talent.

"Omri's friend Patrick was very dark-skinned, and Omri was very pale-skinned," Carpenter recalls. "This is a classic problem for cinematographers — trying to even out the lighting a little bit. We are talking about two kids who are essentially non-actors, although Hal had a small role in *Searching for Bobby Fischer*. These kids didn't give a damn about what our focus or lighting problems were, especially when they got together. They were super-revved! The problem was that you didn't quite know where they were going to be, so you weren't going to put a one-inch blade across the kid's head for subtlety when he could be out in the bleachers. Frank, being so performance-driven, was not going to want to hear, 'Let's do it again, he was two inches off his mark!' So we



Hand-drawn diagram showing three 'OPEN 10K' components (likely capacitors) arranged horizontally. Each component is labeled 'OPEN 10K' and has a 'CTB' label below it. They are positioned above a dashed line labeled 'RAIN EX'.



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certainly made allowances for the fact that we had moving targets. Instead of pinning Hal into a mark that he had to hit, if I was going to do something with the lighting I'd do it on the walls in the background and make the interest there instead of slashes across his face."

Any shot in the film that contained the Indian required one form of special photography or another to achieve the effect, including bluescreen composites, oversized sets, or filming in front of TransLight blow-ups. "I think the toughest situation for me was that because of some scheduling concerns, I sometimes had to start lighting from the middle of the scene," Carpenter points out. "This meant taking into consideration a shot placed in the middle of a scene that was a bluescreen shot and building the lighting around that one shot. The problem was that we had a 24:1 ratio, meaning our Indian was three inches tall but was represented by an actor who was 6 feet tall — that's about 24:1. If we chose a camera angle that was four feet above the Indian's head, 24 times that would be 96 feet above the Indian's head, and there isn't a studio in the world that tall. Additionally, if I did a three-foot dolly move on the 'real' stage that took four seconds to execute, it would translate into a 72-foot dolly move in four seconds on the bluescreen stage, which is not even possible. We were always working backwards from what we knew our limitations would be — sometimes weeks or months later — on the bluescreen stage."

For scenes that took place in the courtyard behind Omri's apartment building, Carpenter shot the exterior on a soundstage but treated his lighting as if he were at a practical location — bending reality to suit his illumination plans. "In the backyard I definitely took liberties," he muses. "If you look at most situations in New York in terms of the brownstone housings — especially where we were, in the East Village — not much light gets into the backyards. The light is usually coming from above because all of the backyards are small and surrounded by tall buildings. I decided that the courtyard would look totally boring if I

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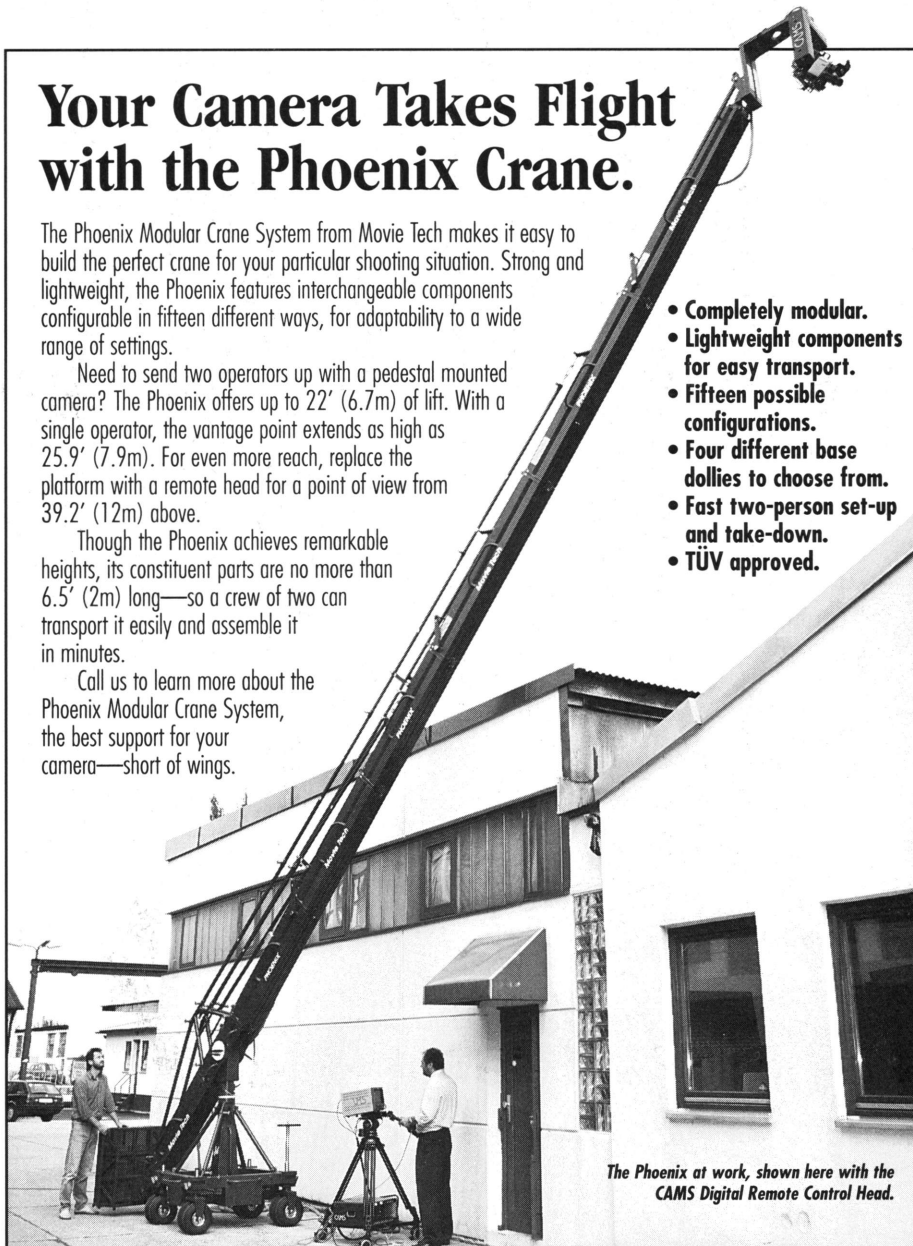
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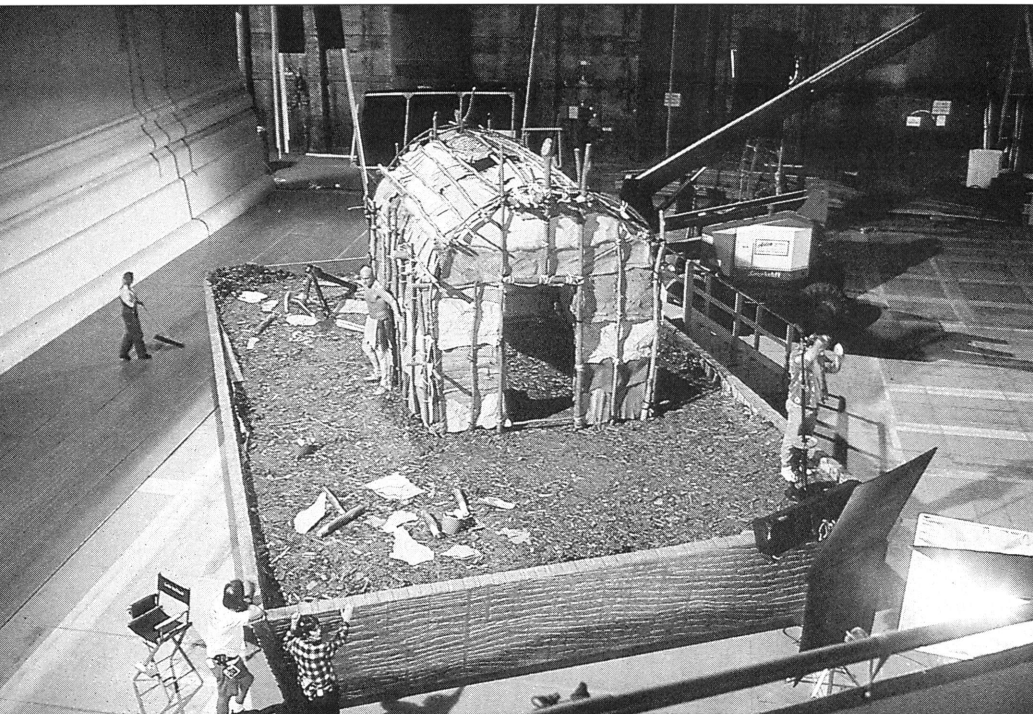
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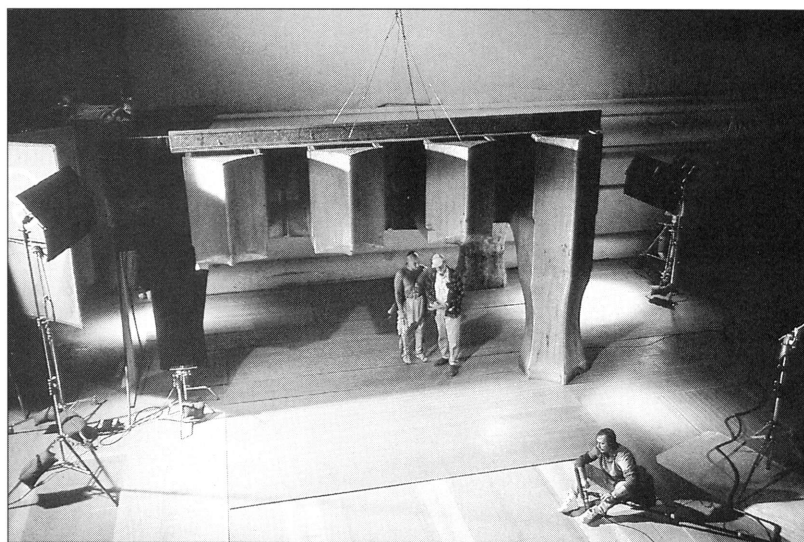


**Top: The Indian (Litefoot) and members of the Cupboard effects team work on the seed-tray set built at Sony Studios. The massively oversized moldings and hardwood floor segment at left help set the scale. Far right: Another of the oversized set-pieces — here a radiator — gives Indian a sense of scale. Right: In the finished shot, the 3" Indian stalks his prey across the hardwood plains of Omri's bedroom.**



did that, so I lit from low, side angles and warmed up the light to play warm light on one side of Omri's face and coolish light on the other — effectively pulling the white light apart so it wasn't just one color temperature. We hung 20 to 24 tungsten chicken-coops with 216 and 250 diffusion underneath to build a base light; to structure a sense of sunlight, we used 20K tungsten units on Condors or high stands from the floor with  $\frac{1}{2}$  CTO on them."

"The chicken coops gave us an overall ambient light that would represent skylight," gaffer West adds. "Once we had that light set we would use the 20Ks on the Condors as a sunlight source and back up that sunlight with other lights on scaffolding or lights on very tall stands to bring up key levels — raking them through trees, creating shards of light on fences and bringing up hot spots. In New York, you never have pure sunlight coming in at that low an angle. It's



usually coming in between two buildings or kicking off a mirror somewhere on a building."

A pivotal scene in the film occurs in Omri's parents' bedroom while Omri and Patrick are watching MTV with their two bantam buddies; Boon sits on Patrick's knee and Little Bear observes from the bed. Lit by the light from the television and dim moonlight trickling through a window with rain and occasional lightning, West recalls that Carpenter lit the scene using "flicker generators in connection with fluorescents, and Babies on variacs with different colors. We were trying to get the

cross-fade of watching something as frenetic as an MTV video to something as subtle as a documentary about elephants. We were also trying to simulate the feeling of changing from one channel to the next, until finally the characters are watching a black-and-white Western."

Explains Chuck Schuman, "In the establishing shot of the boys and the three-inch men on the bed, the camera dollies by them looking past Patrick's knee — with Boon on it — at the boys, and then around to their point of view behind Patrick's knee toward the television — dolly around them 97.5 degrees." For the bluescreen unit to photograph the element of Boon sitting on Patrick's knee, "the main unit's 10-foot move with 97.5 degrees of panning was translated into a 120-foot crane move and 97.5 degrees of rotation. To do that

onstage within the same 17 seconds, we had the camera on a crane moving on the z-axis only — in and out approximately 60 feet — while the subject rotated. Boon was sitting on a topography mock-up of the knee that rotated 97.5 degrees on a turntable. While the camera moved in and back, that meant that the key lighting relative to the actor also had to change. Initially the light appears to be from a  $\frac{3}{4}$  left sidelight, and then as the camera goes behind him the light becomes a backlight and then becomes a  $\frac{3}{4}$  backlight from the right side. In the plate shoot, the keylight was a Baby. Scaling up for the bluescreen



foreground, this key became a series of four 20Ks, which we cross-faded with remotely-controlled shutters. Also, since they were watching television in the scene, there was an active glow from the television which always maintained the same direction. By rigging those lights onto the rotating platform, that active light would always face the actor."

For close-ups of Little Bear as he reacts to a televised battle between cowboys and Indians, Carpenter had to match the original lighting of the onscreen footage to the actor on the oversized set. "I wanted to give the sense that the Indian was in front of a huge screen. When we did his close-ups reacting to the moving images, we used 4K Xenons on scissors-lifts behind camera, played over 12-foot by 12-foot Griffolyn bounces on different parts of the stage. By panning the Xenons — one coming off a 12 by 12 to the right of the Indian, another off a 12 by 12 to the left of the Indian, and then one in the center — we got a real sense of the movement of images across a huge screen."

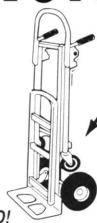
For Oz, directing between two full units necessitated some quick trips around the lot. "It was a weird situation," he recalls, "I would have to run off the main unit, get in a golf cart and race to the bluescreen unit. Both units had monitors that would show me what the other unit was doing. So while I was working on the main unit with Russell, I would be working with the other unit with Chuck and Eric. Then when I was on the bluescreen unit, Russell would ask me questions and I would look at the television to see what the main unit was doing."

An ironic twist to *Indian's* filming is that Hal Scardino and Litefoot never actually acted their scenes together — yet it is their relationship upon which the story hangs. "I'm proud of the fact that Hal and Litefoot have such a strong relationship in the film, although they never worked together in the same room," says Oz. "I wanted this to be a special effects movie without the special effects." ❖

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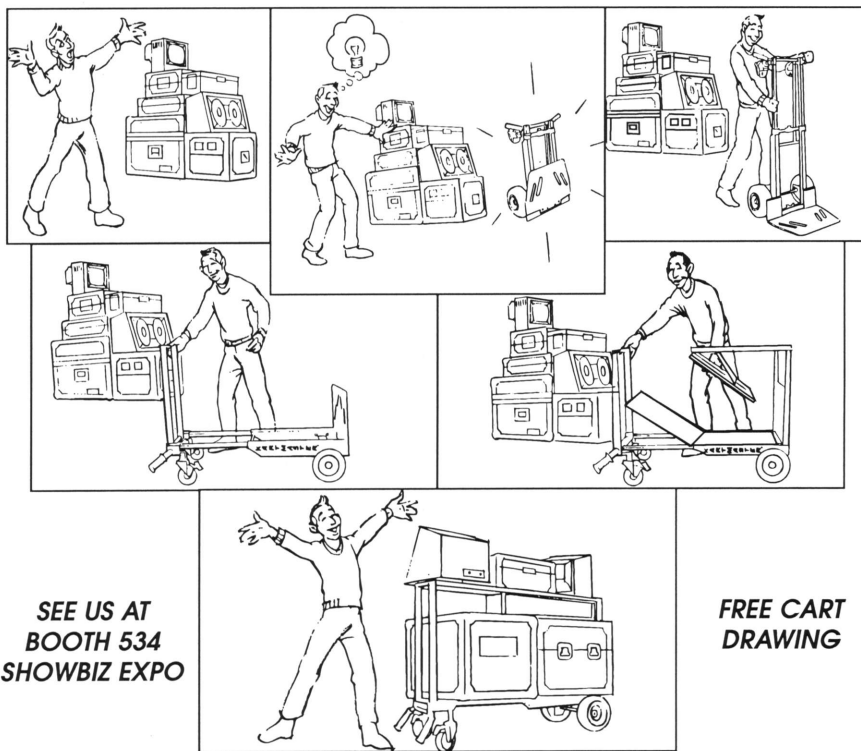
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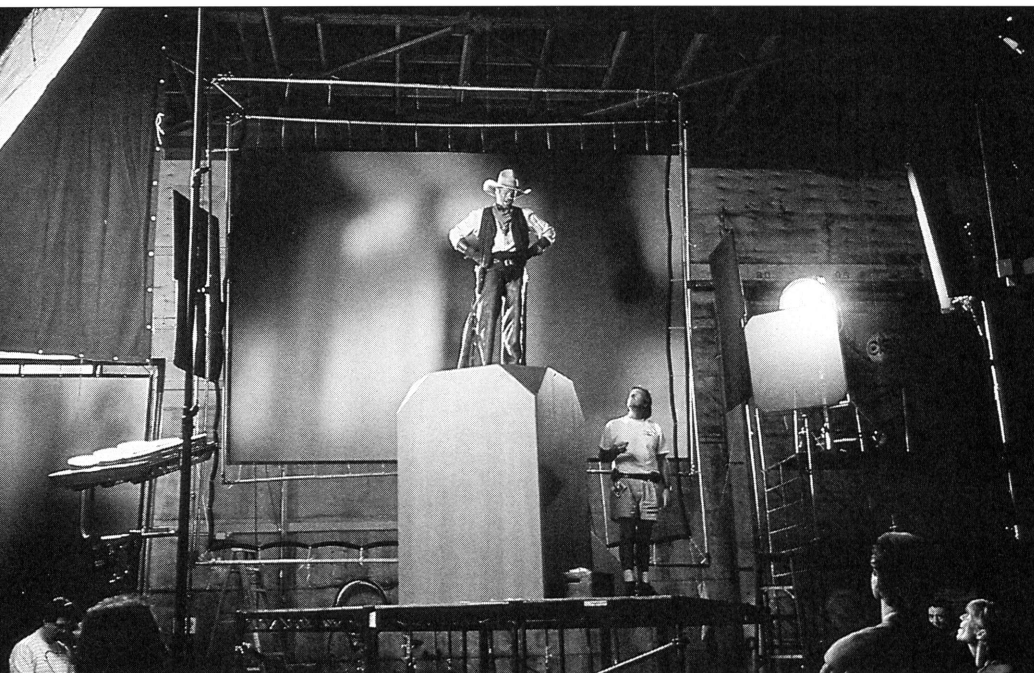
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# Incredible Shrinking Indian Effects

*Indian in the Cupboard's* visual effects supervisor Eric Brevig and ILM reduce characters with a mixture of scale-shifting techniques.

by Ron Magid and Chris Probst



Actor David Keith poses atop a gigantic bedpost. The TransLight blow-up behind him was shot deliberately out of focus on an 8" x 10" still camera. Says Brevig, "The TransLights were a way to avoid doing composites. For any sort of medium shot of the Indian where he's not moving around too much, we needed a background that fell out of focus as it would

Cont. on p. 69

On *Indian in the Cupboard*, when crew members talked about working for scale, they weren't discussing their pay. In a summer where miniatures are all the rage on land (*Congo*), on sea (*Waterworld*) and in space (*Apollo 13*), visual effects supervisor Eric Brevig found himself bucking the trend, miniaturizing full-sized actors instead. Director Frank Oz's goal was to reduce the title character and others to three inches in height, yet convince audiences that the tiny protagonists were real as they interacted with the film's child leads. "We didn't want audiences to be thinking about the scale of the little people," Brevig says. "Instead, we hoped they'd look at them just as people, so that the scenes became about relationships and what it's like to be different."

Brevig, who also served as *Indian in the Cupboard's* second-unit director, had to convincingly combine the titular Indian, a cowboy on horseback and others, along with full-sized children, into nearly 140 of Oz's wildly roaming shots. And for once in this digital age, the central effects challenge had far less to do with computer workstations than with pushing the limits of traditional cinematic equipment.

The best approach, in some cases, was to work backwards. Instead of shooting a background plate, then filming an actor against bluescreen with a matching camera move, Brevig opted to first film the live-action actor element and then shoot the corresponding background. "Since the camera pan would be reacting to the actor, he had to lead the shot," Brevig

explains. "We had the choice of either motion-controlling a camera filming a close-up of a real bed on-set that a little character was supposed to walk on, or attempting to control an 80-foot crane arm, with 500 pounds of gyroscopically-stabilized equipment on its end, as it filmed the actor. We felt we were much better off match-moving the bed background to the small-scale actor shot from the crane. Using reference points on our bluescreen stage and computer graphics software to plot the matching camera move, we translated that data to a mechanical motion-control rig where we photographed the background for the other half of the composite. It was the reverse of the match-moving technology ILM created to plot a T-rex into a bouncing plate for *Jurassic Park's* jeep chase."

Given the sheer number of shots that included the miniature characters, Brevig had to judiciously plan how each would be executed, either by bluescreen composite, on oversized sets, or with the actors performing in front of TransLight blow-ups of the full-sized sets. "The size of the shot would dictate the method utilized," Brevig explains. "If we were wider than a medium shot on the actor, we would be in danger of revealing more of the oversized set than would probably hold up. The oversized sets have a tendency to look like what they are because of the materials used, and the difficulty in matching the lighting over a large area and making it look as if it's lit from an infinitely large source. If we were much wider than a medium shot, or if there was any interactivity between the small characters and the normal-sized people, then we usually decided to go to a composite. The goal was to devise the sequences so that they would appear to be natural-flowing shots filmed in a normal manner regardless of the size of the actors."

"The most difficult part was the coordination between the first unit and the ILM crew with bluescreen," says main-unit gaffer Rick West. "The first unit had to shoot oversized sets, and we were trying to intricately match lighting in sets that we shot as early as No-



vember, sometimes finishing the same scene two months later in January. It all had to look seamless between first unit, first-unit oversized and ILM bluescreen."

The decision not to use motion control on the actors proved especially prescient during scenes involving a cowboy atop his horse on the bluescreen stage. In the finished film, the camera appears to be 4" below the top of a desk looking up at the teeny cowpoke as his horse bucks him off the desk. To create the proper perspective, Brevig and his ILM cohorts built a roof over several offices on their bluescreen stage, creating a platform eight feet above stage-height. "We then aimed our VistaVision camera up through a hole in the platform as the horse and stuntman actually leaped across what was originally the top of our offices. Filming cowboys on horseback is not something we normally do in effects photography on a bluescreen stage! When working with horses, you're really out of luck if you expect them to hit their marks or wait for a computer camera."

Compared to shooting the scaled actors, compositing them into the full-sized sets was a breeze. "Most of the work happened when we shot them," Brevig says. "The compositing was just a matter of dealing with the normal problems of making things that cast shadows integrate with the background. We spent a lot of time blurring the Indian when he was in a shot where the focus wouldn't necessarily be on him. Early in the movie, there's an establishing shot where the camera cranes down in the boy's bedroom and we discover that the little Indian is in the foreground on the table — he's way out of focus. That's because the table he's on is out of focus. That's how real photography works. We could have shot it so that the Indian was in focus, but it would have looked like a composite or a big rear-screen shot."

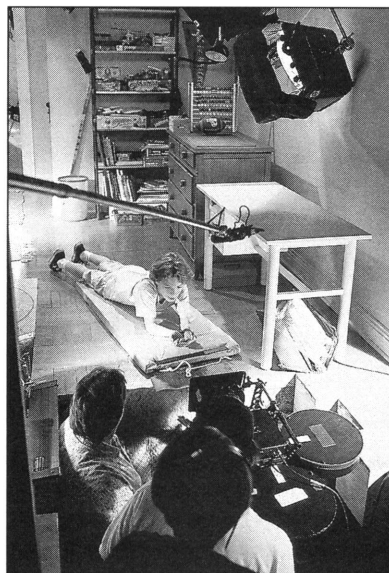
The production was occasionally assisted by that old standby of films about little people: oversized props. "We only used a few of those because normally they kind of smack of what they really are, handmade giant props," Brevig

recalls. "The few times we tried big props, there were too many visual cues that it was a normal guy on a big set rather than a little guy in a normal environment."

However, the oversized mock-ups did play a critical role in creating the interactive highlights and shadows that tied the thimble-sized thespians to their environments. "When the Indian or the cowboy came in contact with an object," illustrates bluescreen director of photography Chuck Schuman, "or if his shadow was cast onto an object or a shadow of some object was cast onto him, we used shadow catchers and shadow makers to interact with him. The shadow catchers were contoured blue surfaces in the same position and shape as the real props that he would be interacting with on the plate — so his shadow would fall appropriately. If a shadow needed to fall on him, the shadow makers would interrupt the lighting so he would pass through a shadow or highlight in the right place."

During a climactic confrontation between the tiny Indian and a pet rat on the loose, Brevig opted to utilize a technique not unfamiliar to Frank Oz — a hand-puppet. "Because the Indian character is three inches tall, it wouldn't have been feasible, nor would it have looked good, to use a giant rat, so we used a rat hand-puppet, about four times normal size, for specific cuts, like a moment when it had to leap out of a hole. We couldn't use a live rat because we would've had to manhandle it to make it leap, so we used hand-puppets very briefly. That sequence added some thrills and spills, but in the rest of the movie, the rat is played by a real rat."

In fact, the only large-scale prop used throughout the film was an oversized set of the cupboard interior for shots in which the cowboy and Indian are shown on its shelves. The primary cupboard was constructed 24 times normal size to create the proper scale illusion. Another oversized cupboard setpiece was built for a fun sequence involving numerous seven-inch superhero action figures that come to life. "There are a couple of hybrid shots where another boy puts all his superheroes, including



his toy T-rex from *Jurassic Park*, in the cupboard," Brevig explains. "Since those toys were 2 1/2 times larger than the miniature characters we're used to seeing in there, the cupboard we built for that shot was 18 times normal size, or about 24 feet high. When the boy opens the cupboard, he's horrified to find Darth Vader fighting the T-rex and the superheroes all fighting each other. Except for the T-rex, which was the real CG model from *Jurassic Park*, all the other characters were played by actors wearing the real suits from the real shows, including RoboCop, aliens from *Star Trek* and Darth Vader. As the boy witnesses the terrible carnage he's responsible for, one by one, the superheroes turn and look at him; he shuts the cupboard really quickly and makes them all back into toys, then runs and hides. That's a really cool sequence."

Looking back on the experience, Brevig concludes, "It was fun matching what we were doing on the bluescreen stage with normal-sized stuff shot by Frank Oz with the first unit, since we had to take what the camera did on set and make it 24 times bigger. Every once in a while I'd see several camera technicians trying to move some giant thing that was supposed to be one foot long, so we felt like a three-inch film crew trying to do a normal shot. After that, we could all relate to the Indian and the other little people in the film."

Cont. from p.68  
when you're in a macro situation shooting something three inches tall. The TransLights averaged twenty feet high by thirty wide." Adds Carpenter, "We found that if we moved the camera around, you could see the texture of the TransLight. The technique worked well enough by itself, but if you had a sequence with [TransLight and bluescreen] within a cut or two of each other, the audience would start to feel, 'Something's wrong here.'" Left: Capturing Omri at play in his bedroom in VistaVision. "We shot the bluescreen elements on Eastman EXR 5293 rated at 160 ASA, and the background plates on 5298 rated at 320 ASA. Eric Brevig and I prefer 5293 or 5248 for bluescreen work because the blue-green cross-talk is less than on 5298," says Chuck Schuman. As most of the film takes place in this one small set, creating discernibly different lighting became a dilemma. Note the KinoFlo mounted in upper right providing soft illumination, and another bank under the table at the floorboards for fill.





Photos courtesy of Sony Pictures Classics

## *Amateur's* Tenebrous Images

Director Hal Hartley and cinematographer Michael Spiller discuss their commitment to a dark and singular vision.

by Brooke Comer

*Amateur*, Hal Hartley's fourth feature film, explores the filmmaker's favorite themes: religion, sex and money. "I have a hard time making sense of this world if I don't see it in terms of money or faith," Hartley explains. "My characters are people who refuse to be owned, people who lose material possessions and, because of that, become free." Hartley is like his characters in that he has sacrificed lucrative offers in order to maintain creative control over his films.

Hartley's previous films, *Simple Men*, *Trust* and *The Unbelievable Truth*, won enough critical acclaim to bring a major distributor and an international star (Isabelle Huppert) to *Amateur*, which the

director calls "a bigger low-budget film." The film is about an ex-nun turned porn writer (Isabelle Huppert) who meets an amnesiac (Martin Donavan) whose past is linked with an abused porn actress (Elina Lowensohn). "Desperate people are more interesting to watch," says Hartley.

Cinematographer Michael Spiller has been shooting Hartley's films since his school days. "I design movement in space like a choreographer," Hartley explains, "and Mike and I design color and light."

In his first few years of film school at State University of New York at Purchase, Hartley shot his own films. "By the third

year, when we began shooting dialogue, I found it an imposition on my actors to shoot and direct. I had to think about who would shoot my film, which was a ten-minute black-and-white piece." Hartley approached Spiller. "If I trusted anyone in my class, it was Mike," he says.

Spiller's methods, and his work itself, attracted his future director. Hartley testifies, "We had to shoot slides on film stock and we'd analyze the exposure in class. Mike's slides had a clarity, a 'graphic-ness.' They looked like a picture I would make, only different."

Also impressive was Spiller's remarkable sense of bal-



ance. One winter morning during their school days, the aspiring director watched his cameraman carry a full, uncovered cup of coffee for a quarter mile to class through deep snow. He didn't spill a single drop. "I thought, 'I want this guy to shoot my movie,'" Hartley recalls.

He also admired Spiller's tenacity. For one class, he recalls, the students were sent into a dark tunnel to learn more about light meters while shooting a five-minute project. "Some people came back with shots that looked like

garbage. Mike was the only one who went back to re-shoot, and his work was beautiful. He was the first person I met who really loved light. We talked about it before we even knew all the technical language. We weren't reading

*American Cinematographer* yet. It was almost an afterthought to think about exposure."

Spiller has photographed all but one of Hartley's films (*Dogs*, a Super 8 short). His resume also includes many independent features, including *Handgun*, *Wadek's Mother's Friend's Son*, *Life in the Food Chain*, *Blue Vengeance*, and *Revolution*. His TV credits include the Nickelodeon series *The Adventures of Pete and Pete*, and Hartley's *Surviving Desire* for American Playhouse. He has also shot numerous documentaries, music videos and additional photography.

Spiller began shooting when he was 12 years old on a Super 8 camera he bought with his paper route savings. At Edward R. Murrow High, a public school with a communications slant, his hobby evolved into a science. Then at SUNY-Purchase, he studied theory with Tom Gunning. "That class really rocked my world," Spiller says. "I found a whole new language for film." He also found cinematography teacher Yuri Neyman, who filmed *Liquid Sky*, to

be a major creative influence.

In his junior year of film school, Spiller began to shoot for Hartley. Hartley's early work "had a mystical quality, women in the woods in gauzy robes," Spiller remembers. "I was attracted to these images, and I liked the scripts Hal wrote, and the way he worked with actors."

During production of *Kid*, Hartley's senior thesis film, the director and cameraman experienced a crucial moment of connection. "We had no money," Spiller remembers, "and we were under

called him over to look through the camera, because I'd already framed the shot exactly that size. It excited me that I could do something on my own and it was exactly what he wanted. I know what kinds of pictures he wants me to make. We don't think about where he ends and I begin. Hal and I kind of overlap." Spiller's work on Hartley's student films was so successful that he became the most sought-after cameraman on campus; by his senior year, he had shot five thesis films.

The duo's friendship has fused a stronger work relationship. "We'll start talking before the script is finished, and we'll look at photographs and talk about light quality. Then by the time we're scouting for locations or rehearsing actors, everything has become more refined," Spiller relates.

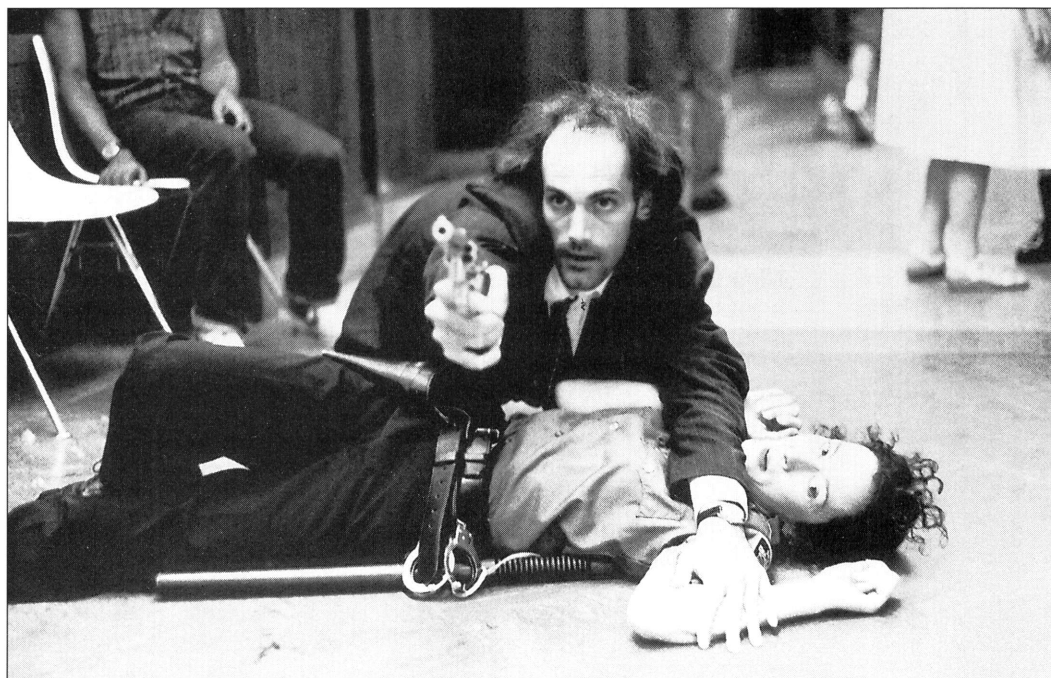
Hartley and Spiller draw a schematic for each location, with football-style diagrams of actor movements and camera placement. "That's our spine," says Spiller of the method. "We developed it because we couldn't afford to shoot a scene again or go back to a location. We had to stick to our diagrams. We didn't have time to improvise."

Even on *Amateur*, Hartley's most expensive film to date, the director and cinematographer stuck

**Opposite: *Fate* conspires to connect *Amateur's* offbeat characters, portrayed by (from left) Damian Young, Isabelle Huppert, Martin Donovan and Elina Lowensohn. This page, top: Elina Lowensohn portrays an exporn star trying to escape her sordid past. Below: Damian Young, playing a criminal's former accountant, eschews his adding machine for a more potent weapon.**



pressure. I was setting up a shot and Hal was talking to an actor. I wanted to make sure this was the shot he wanted, so I caught his eye. He held up his hands to show the size of the frame he wanted. I





to their diagrams. The team shot on location in New York in Grand Central Station and the Cloisters. "The Cloisters were easy to shoot in," says Spiller, "except that the crew had to be extra careful, because we were essentially working in a museum." But the Fifteenth Century church, with its walled garden, provided plenty of places to hide lights. "All we needed was a 40' by 40' silk. It was a hazy day to begin with, and the silk further softened the light. Then, with a few HMIs on stands, we could bounce the light around and give it a little edge."

Grand Central Station was more difficult. The company only had five hours to shoot eleven pages of dialogue, and on the first day a defective generator cost two and a half hours. "The coverage there wasn't what we'd designed. We were flying by the seat of our pants, and we had no time for on-set inspiration. I wish we could have done it the way we'd planned, but as it is it came out well."

When Hartley and Spiller discussed lighting for *Amateur*, "We talked about not playing it so safe, about going for more extreme contrast ranges, and letting the windows go a little hot instead of putting ND gel on them," says Spiller. "We also weren't afraid of letting things fall off to black, as we did in the torture scene on the abandoned pier." Though the film has many night scenes, "I didn't see it as being that dark when we were shooting in New York City," says the cameraman. "When Martin and Isabelle break into Sophia's loft, there aren't supposed to be any lights on. But you can see." Spiller used a heavy blue gel to give texture to the darkness and a hard tungsten edge to delineate the actors.

The lobby of New York's Angelica Film Center was turned into a cafe where the characters played by Elina Lowensohn and Damien Young have coffee. The scene opens with a high-angle close-up of Lowensohn compositionally balanced by a pale orange rose. "My gaffer Frank Stubblefield and I agree that this shot, in which Sophia tells how she's supposedly

killed Thomas, is our single favorite image from the film, and maybe even from our careers together," says Spiller.

That scene was particularly difficult because the Angelica lobby/cafe is one flight up, with large windows overlooking Houston street in lower Manhattan. "In this case," says the cameraman, "it was important that we could read what was going on outside. I wanted a nice daylight edge to come through the windows. But I couldn't just put a light up on scaffolding or a scissorlift, because we'd have seen it."

Instead, Spiller asked key grip Paul Candrilli to undersling a 12K from a Condor, which allowed the filmmakers to raise the light just above the windows and aim it out so the device itself wouldn't be visible. Then he was able to balance a couple of 2500 Par lights inside for some ambient fill.

*Amateur* had a bigger budget than the \$2 million *Simple Men*, but the two films used roughly the same size lighting packages. "Amateur was a Panavision film," notes the cinematographer, who was pleased with the Panaflex Gold he booked from New York's General Camera. Spiller also shot with Panavision's Primo lenses.

Spiller reports that he doesn't use a lot of filtration. "The only oddball filter I'll use is an 85-C half-correction on day interiors when I'm letting daylight go uncorrected. I'll work with an HMI with half orange inside, so my interior light reads as white but the daylight coming in has a slight blue quality to it. But as far as diffusion goes, I try not to put anything on the lens."

Hartley's past few pictures have all been shot on Fuji film. When he shot *Theory of Achievement*, a 12-minute short and part of a series of sketch films, he took the opportunity to experiment with stocks. "It's not as easy to try new things on a bigger project where more money's at stake," Spiller explains. He and Hartley were pleased with the Fuji stock's performance, as well as its affordable price tag. Spiller shot side-by-side tests to compare the Fuji and Kodak. "I found that in

terms of grain structure, detail and shadow, they were very close. The difference had to do with the way you rendered color," he says.

Spiller used three of Fuji's T-grain stocks on *Amateur* — 8530, 8550 and 8670. He chose the 8530, a slow tungsten-balanced stock, for day exteriors, the medium-speed 8550 for day interiors, and the high-speed 8570 for night scenes. "They were all beautiful stocks," says Spiller.

While Spiller enjoys shooting on Fuji, he typically likes to print on Kodak. "Something out of that chemistry works well for me," he explains. "I don't have any blanket rule about what tools need to be applied to every project. I treat each film individually." Spiller had tested a variety of stocks at New York's Du Art lab in preparation for *Trust*, and chose to shoot the entire film on the then-new Eastman 5296 stock. When timing answer prints for previous films that used a variety of stocks, Spiller sometimes noticed slight color shifts between scenes shot on different stocks. "We'd have to go back and strike another print, which we couldn't really afford, so I thought the timing process would go more smoothly if I used one stock throughout."

At school, Spiller shot Hartley's films with a CP camera. He photographed the rest of the director's films, until *Amateur*, with Arri BLs. Hartley's lens choice is also consistent: *Simple Men*, with the exception of one shot, was filmed entirely with a 50mm lens. Few scenes in his other films go much wider. "I don't like to go wider than 50mm," Hartley admits. "It took me a while to realize that. But when I'm thinking of scenes, I think in 50mm. I know when I'm writing what my focus will be."

Much-admired French director Robert Bresson (*Diary of a Country Priest*, *Pickpocket*) employed a similar style. "He cut past everything to isolate an image," Hartley notes. "He was the first filmmaker I'd ever heard of who only shot with 50mm in his career. Now I know Godard and Ozu did too," he adds, "though Godard occasionally uses zooms."



Hartley did experiment with a wider focus in school, "but I haven't used anything wider than a 50mm lens in years," he explains. "Going wider will bend whatever horizon's in the frame. I've seen other films that seem suited to wider lensing. But I like 50s, with a little bit of telephoto. It's not exactly the way we see [in reality,] but I think that it is the way we see psychologically. It's flat."

Shooting almost exclusively on 50mm does pose logistical problems. "When you're on location with your actors and you realize you can get a perfect shot by going back two feet, but there's a wall in the way, you either punch a hole into the wall or you find another way of seeing the scene. It costs time or money, which is usually the same thing."

Despite the problems of shooting with a 50mm lens, Hartley feels that this approach makes the film "really tight. Changing lenses is like changing your glasses. If you put on different glasses every time a lens changed, it would be very disconcerting." He calls lens change "a lack of commitment to a singular vision."

*Amateur* is a dark film, literally as well as figuratively, but despite the many night scenes, Hartley managed to bring in color and texture with a gel gaffer Frank Stubblefield found while filming *Simple Men*. The gel, used for night exteriors, "was so blue, it scared us in dailies," recalls the director, who usually shies away from oranges, browns, and warm, antique colors. "But I found myself liking it. It has a violet hue that looks beautiful against warm yellow light."

Hartley also got the best out of night scenes by wetting down walls to give texture to the darkness. "I like to have things a little bit wet," he notes, "especially in the dark. It gives me more definition to work with, and it brings out lines and edges to help fill a composition, instead of being just black." The director never did a total wetdown, but the crew spritzed down whatever metal or glass surfaces there were, such as the coffee shop window in the scene where Thomas meets Isabelle.

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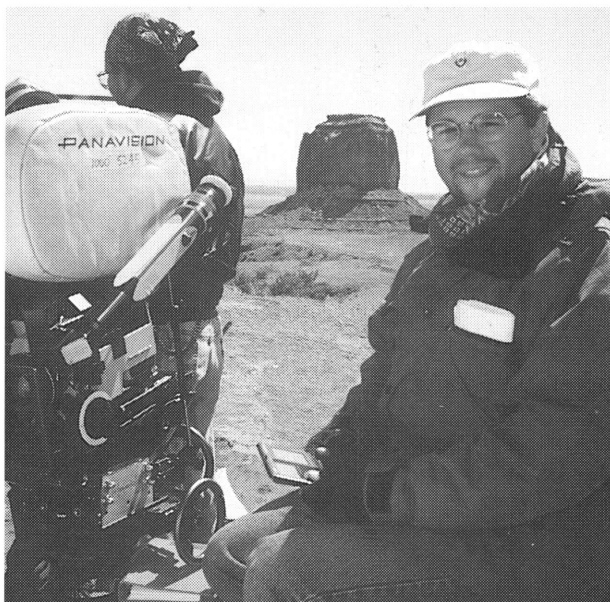


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another visual component in Hartley's art. "The world is made up of angles and shapes," Hartley declares. "There's a geometry that exists around the angle you're actually looking at. The way people are set up, the environment you're alluding to — you're only showing parts of it, but you can use this geometry, or the way you see in space, to let the audience know it in its entirety."

Hartley is excited by the way the geometry of a scene creates potential for camera movement. "I like the fact that the film camera allows you to be in different places in the same situation. There's no proscenium." He finds establishing shots "too theatrical. It's like the curtain's going up."

Both Hartley and Spiller love moving the camera, though the cinematographer admits that "we do a lot of work with the camera static." Crane shots are rarely used in Hartley films, given his preference for the 50mm lens, though Spiller loves to crane. "I think most cinematographers like crane shots," the cameraman observes, "because they're fun to plan and execute, and they look great on the screen. They do tend to be used quite often in a clichéd manner, and that may be why Hal steers clear of them."

In addition to his work with Hartley, Spiller was credited as co-director of photography with Bobby Bukowski on the recent indie film *Search and Destroy*, starring Dennis Hopper, Griffin Dunne, John Turturro and Christopher Walken. He's not averse to filming mainstream movies, but he loves working with Hartley and he loves New York. *Flirt*, Hartley's upcoming three-part film, takes place in Tokyo, Berlin and New York. The director of photography notes that the duo will probably still favor the 50mm lens, though they may plan a wide shot or two in Germany and Japan. Jokes Spiller, "What's the point of going halfway around the world if you're going to shoot in an apartment that could be on the Lower East Side of Manhattan?"

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# Foreign Correspondent— The Best Spy Thriller of All

Alfred Hitchcock tackles wartime espionage,  
with typically stylish results.

by George Turner

*To those intrepid ones who went across the sea to be the eyes and ears of America . . . to those forthright ones who early saw the clouds of war while many of us at home were seeing rainbows . . . to those clear-headed ones who now stand like recording angels among the dead and dying . . . to the Foreign Correspondents — this motion picture is dedicated.*

On August 16, 1940, United Artists launched *Foreign Correspondent* with this on-screen foreword. The German military machine under Adolph Hitler's insane leadership had taken over Austria and part of Czechoslovakia, had invaded Poland, Belgium, Luxembourg and the Netherlands, had attacked Denmark and Norway, and had conquered France. Hitler's strutting junior partner, Mussolini, had dragged a re-

luctant Italy into the conflict. Great Britain had been at war with Germany and Italy for almost a year and its cities were being devastated by *Luftwaffe* bombers. While *Foreign Correspondent* was nearing completion, Italy was invading British Somaliland. Soon Hungary, Romania, Bulgaria and Finland joined the "Axis."

World War II was spreading and soon would engulf the world.

*Foreign Correspondent* had arrived at a time when the hemisphere was rightly regarded as a powder keg, Britain and much of Europe were "taking it" and the United States was trying to maintain a policy of neutrality.

The picture has its roots in the biographical work "Personal History," by a well-known foreign



*The assassin (Charles Wagenheim), Johnny (Joel McCrea) and the impostor Van Meer (Samuel Adams), captured the instant before a fatal bullet is fired from the Speed Graphic gun.*



The famous chase through the sea of umbrellas. Stuntman Ted Mapes stands in for Joel McCrea in tan coat at far right.



correspondent, Vincent Sheean. Walter Wanger, a former Paramount producer who had become a producing member of United Artists in 1936, held the screen rights to Sheean's book and hired Lewis Milestone, the Oscar-winning director of *All Quiet on the Western Front*, to adapt it. Milestone failed to produce a workable script and was transferred to other projects. In 1938, writer John Howard Lawson and director William Dieterle put *Personal History* into preproduction. Some of the sets had already been built when the Bank of America informed Wanger that if he made the overtly anti-German picture they would no longer finance any of his productions.

Politically correct or no, Wanger was determined to produce *Personal History* and had one well-paid writer after another quietly working on it. In mid-1939, the headline-conscious Warner Bros. released their nakedly anti-German *Confessions of a Nazi Spy*, which they advertised as "the first picture to call a spade a spade." On September 3, 1939, England declared war on Germany, whereupon Wanger announced that *Personal History*, from a screenplay by John Lee Mahin (borrowed from MGM), would be ready in November. Writing costs of the picture now totaled \$140,000. Elaborate trade magazines ads heralded Charles Boyer and Claudette Colbert as the stars.

Wanger decided that Alfred Hitchcock, the British "master of suspense," was the one director who

might inject some excitement into the suspenseless *Personal History*. Hitchcock had recently signed a contract with David O. Selznick and was working at the impresario's facility at RKO-Pathé on his first American production, *Rebecca*.

On September 21, Wanger and Hitchcock met for lunch to discuss the film. The director, seeking to escape Selznick's excessive supervision, was delighted at the prospect of working for a less onerous producer, and a deal was made. On November 20, six days before he officially joined Wanger, Hitchcock presented Selznick with a 25-page treatment for *Foreign Correspondent*, with the header: "Original Story by Alfred Hitchcock and Joan Harrison, suggested by Vincent Sheean's book." Harrison, later a producer, was Hitchcock's secretary, and Selznick fumed at the realization that his contractee had been writing an outside script on company time.

As usual, Hitchcock built his sketchy story to accommodate several scenes which he already had in mind. In this instance they were: a Dutch windmill whose sails turn against the wind as a signal; an alpine cable car "accident"; the assassination of a man impersonating an ambassador; an elopement that is actually a kidnapping; and the crash at sea of a clipper plane with all principals aboard.

The cable car incident was not used in the final screenplay, which was mostly the work of Charles Bennett, who had written originals and/or screen-





plays for seven of Hitchcock's British productions. Wanger tried not to interfere with Hitchcock and his writers, even when the script required much more time to complete than was anticipated, and withheld criticism when it continued to demand increasingly costly production requirements. However, he did give a loud squawk when he realized that the villains were being depicted as Germans. Bennett solved the political dilemma by inventing a "cover" language for the enemy spies — German spoken backwards.

The final script, characteristically followed to the letter by Hitchcock, featured a tough New York editor (Harry Davenport) sending crime reporter Johnny Jones (Joel McCrea) — renamed Huntley Haverstock — to cover the European crisis. In London, Johnny befriends Van Meer (Albert Basserman), a Dutch diplomat who has information the enemy wants. He also meets Stephen Fisher (Herbert Marshall), head of the Universal Peace League, and his daughter, Carol (Laraine Day). Johnny follows Van Meer to the Netherlands and as he greets him in Amsterdam Square the diplomat is assassinated. Johnny, Carol and a British journalist, Scott ffolliott (George Sanders) chase the killer (Charles Wagenheim) to a country windmill. Sending the others back for the police, Johnny sees the windmill sails change direction momentarily to signal an aircraft which lands nearby. Inside, Johnny finds the drugged Van Meer — the murdered man was an impostor. Johnny escapes but the conspirators disappear and he is unable to convince the police of what he has discovered. Later, at Hotel Europe, spies disguised as police try to seize Johnny, but he escapes over the roof.

Fisher introduces Johnny to Krug (Eduardo Ciannelli), whom Johnny recognizes as the leader of Van Meer's captors. He informs Fisher, not knowing that the supposed pacifist is actually the leader of the

spy ring. Fisher hires Johnny a bodyguard, a cherubic Cockney named Rowley (Edmund Gwenn). With a ruse, Rowley gets Johnny atop the tower of Westminster Cathedral and tries to push him off, but takes the fall himself, revealing Fisher's duplicity.

Scott cons Johnny into eloping with Carol while he convinces Fisher that Carol is a prisoner and he must reveal Van Meer's whereabouts to save her. Carol's premature return following a tiff with Johnny ruins the scheme. Meanwhile, ffolliott finds the hotel where Van Meer is being tortured, but is captured. Leaping from a high window into an awning, he informs the authorities. Fisher, fleeing with Carol aboard a flying clipper bound for America, learns that Johnny and ffolliott are aboard. Under the pressure of imminent capture, Fisher tells Carol the truth about himself and the plane is shot down, crashing in the Atlantic. The few survivors cling to a broken wing and Fisher heroically gives his life to save others.

Aboard an American rescue ship pledged to neutrality, Johnny manages to get the story to his paper. At the fadeout, Johnny, with Carol at his side, broadcasts from London as enemy bombers attack.

All is done to the king's taste. The photography of Rudolph Mate, ASC sets the tone superbly. Mate had gained acclaim for his work in Europe, particularly in the Carl Dreyer classics *The Passion of Jeanne d'Arc* (1928) and *Vampyr* (1931). Since 1935, he had contributed memorable photography to 18 major American features. After 1947, he concentrated on directing and producing.

One thing that had lured Hitchcock to America was the opportunity to work with major stars. It was his theory that an audience's level of suspense would heighten in proportion to the popularity of the players shown in danger. For *Foreign Correspondent*, he envisioned Gary Cooper and Barbara



**Left:** *Within the eerie windmill, Johnny spots a spy (John George), the assassin and Krug (Eduardo Ciannelli).*  
**Below:** *On the landing above, Johnny slips past Krug, the assassin and their henchmen (Willy Castello and Bill Gavier).*





**Above:** Johnny finds the real Van Meer (Albert Basserman) sequestered within the windmill's attic. **Right:** Making a break across the shadowy roof of the Hotel Europe, Johnny escapes through Carol's chamber.

Stanwyck in the leading roles. To his surprise, Cooper turned him down because he didn't want to be in a "thriller." Stanwyck was unavailable. He tried to borrow Joan Fontaine from Selznick who, to his astonishment, said no. Now it dawned on him that even though "thrillers" were accorded great respect in England, they were considered second-rate stuff within the American film industry, and "name" stars tried to avoid them.

As Hitchcock said later, he "had to 'make do' with Joel McCrea," who played Cooper-like but was a rung lower on the celebrity ladder. McCrea was delighted with the opportunity and proved to be perfect for the role. In fact, it's hard to imagine Cooper or anyone else playing it better. The leading lady, 19-year-old Laraine Day, was no Stanwyck in star power or experience, but was younger, prettier and had gained a following through her work at MGM. Decades later, though, Hitchcock still expressed his disappointment over the casting, saying that McCrea was "too easygoing" and that he had "wanted a bigger name" than Day.

The supporting players were very much to his liking, however. Herbert Marshall, the suave star of Hitchcock's British classic *Murder!*, is the perfect secret villain who lapses into an almost hypnotic state as he describes the fanaticism of the enemy. George Sanders, who was superb as the blackmailer in *Rebecca* and was then starring in the *Saint* pictures at RKO Radio, is a great scene-stealer as a comical but courageous British newsman. Germany's most famous actor, Albert Basserman, who had recently arrived in America, is heart-wrenching as the gentle Dutch diplomat. Hitchcock's old friend Edmund Gwenn does a nifty switch from his usual lovable characterization (which would reach its apex in *Miracle on 34th Street*) to portray a professional killer. Eduardo Ciannelli, the fine Italian actor who had scored as "Shadow" in *Winter set* and the Thuggee guru in *Gunga Din*, is a fine villain. Harry Davenport, the lovable Dr. Mead of *Gone With the Wind*, plays a delightfully crusty news-

paper editor while Robert Benchley, *The New Yorker's* inimitable humorist who also had written and starred in comedy shorts, was an inspired choice for the boozing, blonde-chasing London correspondent. Benchley, at Hitchcock's request, also wrote his own dialogue.

Early in production, British cinematographer Osmond Borradaile was hired to photograph location action and process plates in London and Amsterdam. En route back to the U.S., his ship was torpedoed by a German U-boat. Borradaile escaped with his life, but lost his equipment and film. Gamely, he did it all again.

Art director Alexander Golitzen and his associate, Richard Irvine, designed 78 sets utilizing five stages at United Artists Studio, Hollywood. Included were reproductions of the entrance and observation platform of Westminster Tower, a Soho street, a chunk of Waterloo Station, interior and exterior portions of Hotel Europe (including the large banquet hall), interiors and exteriors of the three-story windmill and surroundings, newspaper offices, a British pub, a village hotel, interiors and exteriors of a seedy hotel, portions of two ships, the interior and exterior of the



clipper ship (including tank shots), and many others. All these were dwarfed by the Amsterdam public square, with its big town hall building, 26 broad steps, a cobblestone avenue with streetcars, and an unprecedented rain effects system.

The picture builds steadily from one action and suspense sequence to another, each more exciting than the last, allowing the audience a chance to relax with some romance and comedy before the next assault. Richard Maibaum, one of the uncredited writers who lent a hand in the screenplay, used this formula to great advantage much later in some of the James Bond pictures, most notably *From Russia With Love* and *Goldfinger*. The first real suspense scene has Johnny, trapped by spies in the Hotel Europe, escaping through a bathroom window onto a ledge. Making his way to the roof, he accidentally smashes two glowing letters on the resort's neon sign, reducing it to HOT—EUROPE. As a comic release, Carol is horrified when other guests see him sneaking through her suite in his bathrobe.

The celebrated assassination sequence in Amsterdam Square is the next "biggie," staged with





The likable murderer, Rowley (Edmund Gwenn), tricks Johnny into entering the tower of Westminster Cathedral.

hundreds of extras on a magnificent set during a heavy downpour. Johnny greets the impostor Van Meer near the top of the stairs to the conference building. (Although Hitchcock wasn't above cheating a bit to fool an audience, he scrupulously used another actor to impersonate Basserman in the sequence.) After a man with a Speed Graphic steps up and shoots "Van Meer" in the face with a gun hidden by the camera, Johnny chases the man through a sea of umbrellas. (The use of massed umbrellas in this sequence has won much-deserved praise, although Rowland V. Lee had done something quite similar the previous year in *Son of Frankenstein*.) Several bystanders and a cyclist are killed by the assassin, who is picked up by an auto. Johnny makes a desperate grab to the vehicle and hangs on, but is flung off, to be picked up by Carol and ffolliott — who humorously tries to explain the curious spelling of his surname.

The chase leads to the scariest windmill sequence since *Frankenstein*. Johnny, constantly in danger of being discovered, steals to the top story, where Van Meer is being held. When the Germans ascend, he hides above the turning wheels of the mill, where his trenchcoat inopportunely catches in the gears. He struggles free, manages to retrieve the coat just as the machinery is about to dump the coat onto the spies, and escapes through the top of the mill.

Hitchcock milks the Westminster Cathedral sequence for every ounce of suspense, with Rowley stalling for the right time to give Johnny a fatal push.

With hidden malice, Rowley picks up a visiting schoolboy so he can get a better view and deliberately lets the lad's hat fall, giving us an acrophobic preview of Johnny's fate. A quarreling married couple then interrupts at a crucial moment. Alone with his prey at last, Rowley rushes forward just as Johnny turns around. A POV shot brings Rowley's malevolent face and hands hurtling into a big close-up. Cut to a long view of the tower, with the would-be assassin falling to the street. (This is an optical shot in which the falling man was printed into a real scene of the tower and street.)

A fine piece of stuntwork follows during ffolliott's escape from the room where Van Meer is being tortured to the accompaniment of amplified jazz music. The camera, at eye level on the street, tilts to follow the stunt leap to the awning, but thanks to some adroit snipping we see Sanders crash through to the street.

The biggest setpiece of the show is the climactic crash of the clipper plane, which accounted for some \$250,000 of the total budget. This was part of Hitchcock's original storyline and was elaborated upon by Bennett. Menzies conceived the visuals for the entire sequence, making scores of visualization drawings and working with veteran special effects cinematographer Paul Eagler, ASC. Eagler, with artist Irving Martin, had pioneered matte photography at the Ince Studio in 1916, and created the first successful synchronized back-projection scenes for *Sahara* at



E. E. Clive and Eily Malyon, as a lecherous hotel manager and his strait-laced clerk, are the kind of character actors that lend charm to a Hitchcock picture.



Hodkinson Studio in 1923. He later won a much-belated Academy Award for Best Special Effects for *Portrait of Jenny* in 1948.

The crash sequence was done in the studio utilizing full-scale mockups of the aircraft interiors and exterior based on plans for the Empire Flying Boats used by Imperial Airways (built at a cost of \$47,000), miniatures, full-scale back projection by Ray O. Binger, ASC, miniature projection, optical printing and various mechanical effects. Much of it was staged in a large tank which Samuel Goldwyn had used for *The Hurricane* and *Dead End*. The first scenes of the craft in flight show a large miniature flying through clouds; the camera approaches the bow, then swings around to the port side and moves in to reveal the principals through the portholes. The actors had been photographed previously and were projected onto a screen behind the portholes of the model. This technique, sometimes called postage-stamp projection, was invented in 1930 by Willis H. O'Brien and was first used at RKO in *King Kong*.

Hitchcock devised a unique technique for showing the impact of the aircraft plunging into the sea as seen from inside the ship. Visual effects director Eagler photographed a pilot's POV scene of an aircraft plunging toward the ocean. The daredevil pilot, Paul Mantz, pulled the plane out of the dive at the last practical instant. The scene was projected onto a process screen made from rice paper and installed outside the windshield. In the foreground were the stunt men portraying the flight crew; behind the screen was a large water tank. As the aircraft neared the surface of the ocean in the projection, the director pushed a button to release a flood of water which obliterated the screen as it burst into the cockpit and swamped the stunt men. Filmed without a cut, the effect is absolutely convincing.

A harrowing, claustrophobic sequence follows as the passengers thrash through compartments rapidly filling with water. Most are trapped as the water reaches the ceiling. Then survivors are shown climbing onto the top of the sinking plane and scrambling onto a wing as it separates from the aircraft. The movement of the wing seemingly floating away from the body of the plane was accomplished by putting the airplane on rails installed on the bottom of the tank and moving the wing onto a branch track. In one fine

composite, the people on the wing watch as the pilot climbs onto the tail of the rapidly sinking plane, dives into the sea and swims to them.

The turbulence of the water and the blending of the projection process with live action during all of these scenes is entirely believable. The actors — including the elderly Gertrude Hoffman, a pioneer of modern dance — spent nine waterlogged days in the tank while filming the crash sequence.

The sighting of the rescue ship is depicted in an optical effect showing the twin reflections of the ship in the pilot's binoculars.

Clearly, a snappy ending was needed. Wanger sent for the top "script doctor" in Hollywood, Ben Hecht, who delivered the goods overnight with a continuity in which Johnny and Carol are being interviewed in a London radio station.

"Hello America," Johnny begins. "I've been watching a part of the world being blown to pieces. A part of the world as nice as Vermont, Ohio, Virginia, California and Illinois lies ripped up bleeding like a steer in a slaughterhouse. And I've seen things that make the history of the savages read like Pollyana legend." Sirens, bomb bursts and falling debris interrupt, but he and Carol refuse to leave. An explosion plunges the place into darkness, but Johnny continues:

"I can't read the rest of this speech I have because the lights have gone out . . . All that noise you hear isn't static, it's death coming to London. Yes, they're coming here now. You can hear the bombs falling on the streets and homes. Don't tune me out — hang on — this is a big story and you're part of it. It's too late now to do anything but stand in the dark and let them come as if the lights are all out everywhere except in America. Keep those lights burning, cover them with steel, build them in with guns, build a canopy of battleships and bombing planes around them and, hello, America, hang on to your lights, they're the only lights in the world."

This may today seem to be overt flag-waving, but it was strong talk in 1940, considering that the picture was released almost 14 months before the United States entered the European conflict.

The picture wrapped in 71 days instead of the estimated 42, employing more than 3,000 players and a crew of 560. More than 250,000 feet of film was shot. Little wonder that the negative cost was a horrendous (for 1940) \$1,484,167, more than twice the average budget of Wanger's previous pictures. Hitchcock's share was comparatively small: he collected his regular \$2,500 weekly salary from Selznick, while Wanger paid Selznick \$7,500 a week for the director's services. The music was composed by the renowned Alfred Newman, whose previous scores included *Gunga Din* and *The Hunchback of Notre Dame*. Gradually developing a rollicking American theme into threatening Germanic mood music, it adds considerable excitement to the visuals.

The premiere was held at the Four Star Theater in Hollywood on September 25. The public and most critics were wildly enthusiastic. One of the few gripes was from the Creamery Buttermakers Association, who lodged a complaint with the MPPDA because of Benchley's expressed hatred of milk in the



picture. Some observers (including Selznick, Val Lewton and Francois Truffaut) were of the opinion that it was a step backwards for Hitchcock, a return from the immaculate *Rebecca* to his rougher English style. But, after all, those tricky melodramas are what the director liked and did best. He much preferred *Foreign Correspondent* to *Rebecca*, of which he said, "Well, it's not a Hitchcock picture; it's a novelette, really."

The warning voiced in *Foreign Correspondent* was confirmed all too soon. War spread like flame to Greece, Ethiopia, Yugoslavia, Russia, North Africa; then Japan attacked Pearl Harbor and the Pacific was engulfed. A wounded, unprepared United States declared war on both fronts, plunging into a maelstrom which killed more people, cost more money and destroyed more property than any other in history.

*Foreign Correspondent*, despite high cost and the loss of the foreign market, netted \$369,973 during initial release.

Ironically, *Foreign Correspondent* and *Rebecca* competed for Academy Awards on February 27, 1941. *Rebecca* brought Selznick the award for Best Picture and Best Black & White Cinematography (George Barnes), and was nominated in six other categories. *Foreign Correspondent* was nominated for Best Picture, Supporting Actor (Basserman), Original Screenplay, Cinematography, Art Direction and Special Effects, but failed to win in any category. The die was cast for Hitchcock's future; although he was for six decades one of the most celebrated active directors in the world, he never received an Oscar for direction. He did receive numerous other honors, including the Academy's Irving G. Thalberg Memorial Award, a Lifetime Achievement Award from the American Film Institute, and a knighthood from Queen Elizabeth. In 1995 a panel of ten leading directors voted *Foreign Correspondent* second place in the all-time ten best spy movies.

On June 3, 1980, requiem mass was held for Sir Alfred Hitchcock at Westminster Cathedral, 80 years after he was baptized there and 40 years after it played its role in *Foreign Correspondent*. ❖

#### Credits

Walter Wanger presents Alfred Hitchcock's production; released through United Artists; directed by Alfred Hitchcock; produced by Walter Wanger; original screenplay, Charles Bennett, Joan Harrison; dialogue, James Hilton, Robert Benchley; additions to screenplay, Ben Hecht, Richard Maibaum; special production effects, William Cameron Menzies; art director, Alexander Golitzen; associate, Richard Irvine; cinematography, Rudolph Mate, ASC; special photographic effects, Paul Eagler, ASC; interior decorations, Julia Heron; musical score and direction, Alfred Newman; process photography, Ray O. Binger, ASC; European photography, Osmond Borradaile; additional photography, Roy Overbaugh, ASC; special effects, Lee Zavitz; assistant, Paul Wtuliska; editorial supervisor, Otho Lovering; film editor, Dorothy Spencer; sound, Frank Maher; assistant director, Edmond Bernoudy; second assistant director, Marty Moss; sound film cutter, Walter Reynolds; special effects cutter, Louis Loeffler; sound effects, James T. Moulton; production manager, James Dent; camera operator, Burnett Guffey; assistant cameramen, Tom Dowling, James King; second unit photographer, Paul Eagler; operator, Ellis Carter; camera assistants, Frank Bucholtz, Norman Freed; pilot, Paul Mantz; makeup, Norman Pringle; hairdresser, Carmen Dirigo; construction, Oscar Brodin; costumes by I. Magnin & Co.;



still photography, William Walling; Western Electric recording. Running time at preview 124 minutes, in release 119 minutes. Released August 16, 1940.

Johnny Jones (Huntley Haverstock), Joel McCrea; Carol Fisher, Laraine Day; Stephen Fisher, Herbert Marshall; ffolliott, George Sanders; Van Meer, Albert Basserman; Stebbins, Robert Benchley; Rowley, Edmund Gwenn; Mr. Powers, Harry Davenport; Krug, Eduardo Ciannelli; Doreen, Barbara Pepper; Latvian Diplomat, Eddie Conrad; Assassin, Charles Wagenheim; Tramp, Martin Kosleck; Mrs. Sprague, Frances Carson; Valet, Alexander Granach; Bradley, Charles Halton; Toastmaster, Crauford Kent; Impersonator, Samuel Adams; Clipper Captain, Marten Lamont; Steward, Barry Bernard; Mr. Naismith, E. E. Clive; Hotel Cashier, Eily Malyon; Stiles, Ian Wolfe; Miss Pimm, Hilda Plowright; Mrs. Benson, Gertrude W. Hoffman; Miss Benson, Jane Novak; Mr. Brood, Roy Gordon; Jones' Mother, Dorothy Vaughan; Jones' Sister, Joan Brodel (later Joan Leslie); Cousin Mary, Betty Bradley; Auntie Maude, Mary Young; Donald, Jack Rice; Jones' Father, Ferris Taylor; Uncle Buren, Harry Depp; Donald's Wife, Meeka Aldrich; "Mohican" Captain, Emory Parnell; Commissioner ffolliott, Holmes Herbert; Inspector McKenna, Leonard Mudie; double for McCrea, Ted Mapes; Pedestrian with newspaper, Alfred Hitchcock; and John George, Jackie McGee, Henry Blair, Rebecca Bohannen, Bert White, Thomas Pogue, Jack Voglin, George French, William Stalling, John Meredith, George Cathrey, Frederick Sewell, James Finlayson, Hermina Milar, Loulette Sablon, Douglas Gordon, Colin Kenney, Paul Sutton, Robert C. Fischer, Jack Dawson, Ken Christie, Thomas Mizer, Hans von Morhart, Carl Ekburg, Otto Hoffman, John T. Murray, Willy Castello, Bill Gavier, Ernie Stanton, Donald Stuart, Helena Phillips Evans, Herbert Evans, Frank Benson, Barbara Boudwin, Louis Borrell, Gino Corrado, Elspeth Dudgeon, Gwendolyn Logan, Bunny Beatty, John Burton, Raymond Severin, Lawrence Osman, Richard Hammond, Joe O'Brien, Billy Bester, Billy Horn, Ronald Brown, Louise Brien, Jack Alfred, George Offerman Jr., William Yetter, Harry Semels, Horace Carpenter.

**Carol (Laraine Day), Johnny and ffolliott (George Sanders) reveal forbidden information over a hidden telephone, fooling the Captain (Emory Parnell).**

The writer is much obliged to Laraine Day, Robert Boyle and to Barbara Hall and Sam Gill of the Society of Motion Picture Arts and Sciences for vital information.



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## On the Spot

### Explosive Illumination

by Mary Hardesty

Traditionally, car shoots involve the use of large light boxes, but cinematographer Bill Bennet elected to use another large lighting source — pyrotechnics — for his latest Dodge car spot, "Explosion."

"The agency wanted to graphically and symbolically suggest how the car designers answered the question, 'How can we get more engine power from the controlled explosions in an engine?'" explains Bennet, whose award-winning commercials include the now-famous Lexus rolling ball-bearing spot and the startling Lexus "Go Around" spot, featuring a 360-degree camera move at 40 m.p.h.

"We wanted to create the impression that the car was being illuminated entirely by the explosions," says director Charlie Watson. "I also wanted the viewer to believe what was happening, so we filmed almost all the lighting effects in-camera."

"There wasn't a single frame of this commercial that was lit conventionally," says Bennet, who studied engineering at Trinity University in San Antonio, Texas before receiving his degree in theater arts. He then went on to work for his cinematography mentor, Ron Dexter, in 1974.

Shot on location over four nights at Vasquez Rocks State Park, California, this 30-second spot features the Dodge Stratus set in a surreal nighttime landscape illuminated by mysterious bursts of light that build in frequency and intensity while a voice-over explains, "Stratus power plants. . . allow more explosions per minute and thus more power."

Prior to production, Bennet tested various kinds of pyrotechnics for their brightness, color and duration. "We ended up using mole foggers and/or CO<sub>2</sub> because the liquid nitrogen dissipated too quickly," he says. "We liked the CO<sub>2</sub> because we could drop it from above the

car and it would fall like rain, but the mole foggers tended to become brown if they were allowed to build up."

"The one effect I found to be most unusual was burning diesel fuel in front of lights pointed directly at the car," recalls Bennet, who was aided by special effects wizard Joe Viskocil (*Star Wars*, *True Lies*). "Normally, when you point lights directly at a car the effect is rather horrible, but the diesel smoke interrupted the light and made it look as if waves of light were flowing over the car."

Because a conventional light meter can't be used to measure an explosion, which lasts for less than eight frames, judging correct exposure was the trickiest aspect of this shoot. To help gauge his settings, Bennet took still shots with a Polaroid camera, a method he picked up years ago from renowned cinematographer John Alcott.

While a great deal of experience is actually needed to interpret correct lighting levels using this technique, Bennet explains, "The exposure on the Polaroid camera is the equivalent of one frame of motion picture film, so I would hear the countdown and take my Polaroid shot right in the middle of the explosion during the test passes. I then looked at the Polaroids and judged the brightness level of the explosions. For some of the effects, like the diesel fuel burning, we had to shoot the Zeiss primes wide open. Also, some of the explosions were so bright we had to use neutral density filters to prevent everything from blowing out to white."

Several transitional frames were intentionally blown out and used as a white wipe effect. "The director and I knew exactly where the cuts were, so we timed the explosions to end at the beginning of each shot that was blown out," says Bennet, who used Kodak 5293 stock and black silk filtration on all the lenses.

In the spot, the viewer sees



what appears to be multiple machine-gun blasts of light, but the effect is actually a composite image which required a separate pass of the camera to create each flash. Because each of the effects had to be shot at different frame rates and the camera had to move at different speeds so the multiple passes would all fit together in the finished piece, a converted Mitchell/Fries motion-control camera was utilized. "We used the motion-control system to trigger the explosion at the proper frames to ensure that it was very repeatable," Bennet explains.

Working from elaborate storyboards, the cinematographer used gelled lights for some passes, while for others a black ProMist was used to coax the car's metal to glow more intensely. To create the golden highlights around the car during several passes, Viskocil walked around the car in a black suit carrying a propane burner that emitted balls of fire. "We had a flame bar pass, a diesel fuel pass, a smoke-falling-from-above pass, and a wall-of-smoke-behind-the-car pass," recalls Bennet.

The finished commercial shows the silver car (chosen for its ability to take light) from many different angles, but Bennet chose to move the car instead of the rig. "To give the appearance of the camera moving and not the car, we laid down black gravel and shot the background plate separately," Bennet explains. "We then shot the car on the black background on black gravel, and you couldn't tell you were looking in different directions. We lit [the background] separately afterwards and did a matte pass of the car so a clean matte could be made in post."

The light created from these explosions could be seen for ten miles away. Recalls Bennet, who recommends extensive testing before such a shoot, "We kept attracting the police, who at first thought the fireballs were from a plane crashing."

#### Credits:

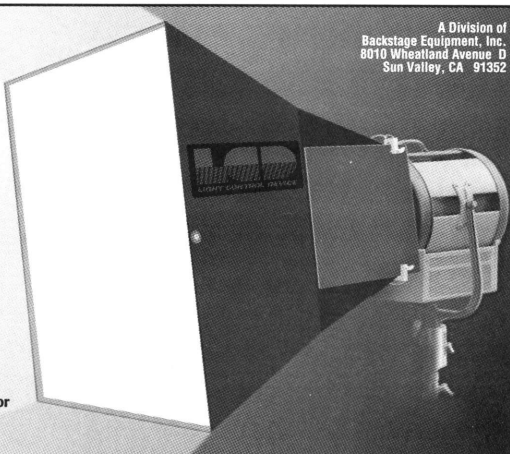
Client: Chrysler Dodge Stratus  
Cinematographer: Bill Bennet  
Director: Charlie Watson  
Producer: Julia Roberson  
Production company: The End  
Advertising agency: BBDO/Detroit  
Motion control: Image G

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## 35 MM REFLEX

The Fries model 435 is a new general purpose MOS production 35mm camera. With its optical printer compatible register pins, steadiness and 150 FPS speed. The 435 is ideally suited for special effects, commercials or any photography where a quality steady image is desired.

The 435 is a spinning mirror reflex camera with a 170 degree blanking shutter. The internal 30VDC motor runs the camera from 2 to 150 FPS forward and 2 to 50 FPS reverse, in one frame increments all crystal. The camera is equipped with take-up and supply torque motors.

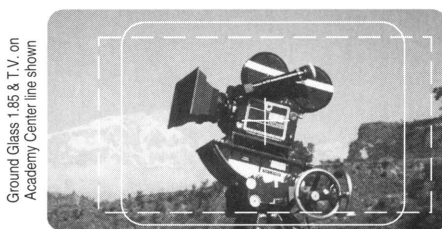
There are both 1000 ft. and 400 ft. displacement type magazines. A new feature is the light valve which allows the operator to direct all the light to the viewing system, or to the video assist, or combo which splits the light between both viewing and video assist.



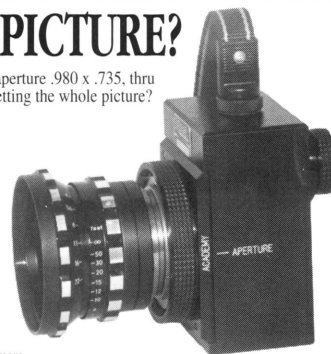
35 mm, Reflex Camera

## WHY NOT SEE THE WHOLE PICTURE?

The new Fries Director's Viewfinder allows the director to view the full camera aperture .980 x .735, thru the same lenses that will be used on the camera when filming. Why aren't you getting the whole picture?



Ground Glass 1.85 & T.V. on Academy Center line shown



Director's Viewfinder

Film Clip: The finder has a set of register pins that will hold a film clip the same as the Fries camera. Groundglass: Interchangeable. The same groundglass as is used in the Fries 35R and 35R3 cameras.



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# New Products

compiled by Marji Rhea

## Lightbanks

Chimera's Video-Omni series of lightbanks has translucent sides designed for omni-directional lighting, is offered in two sizes and produces a light similar to a Chinese lantern but with more control. The new lightbanks are well suited for lighting situations such as small spaces or round-table discussions with a single source, and for use in conjunction with the newly-introduced bare-tube HMI lights. The lightbanks are supplied with additional panels to control the relative amount of light that is emitted from the front of the lightbank.

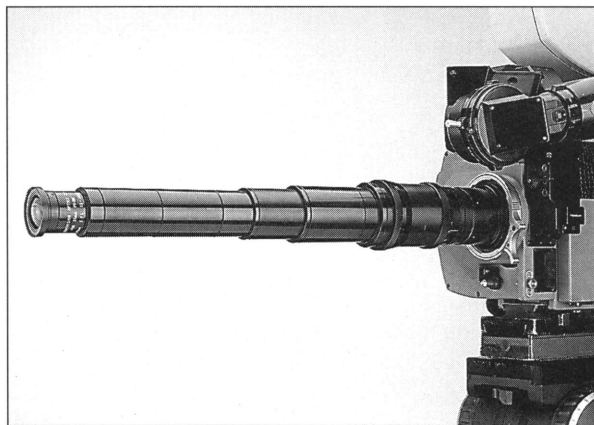
Also new from the company is a line of panels consisting of a  $\frac{5}{8}$ " diameter aluminum tubing frame and five fabrics. Included are three different densities of diffusion and two reflective fabrics, in five styles: full diffusion,  $\frac{1}{2}$ -grid diffusion,  $\frac{1}{4}$ -grid diffusion, black/white reflective and black/soft silver reflective. The standard frames all collapse to a 42" length and a more compact model is also available.

Chimera Photographic Lighting, 1812 Valtec Lane, Boulder, CO 80301, (303) 444-8000.

## Ultimatte Video Backgrounds

Westcott's Ultimatte backgrounds for video image makers, developed in cooperation with Ultimatte Corporation, are composed of nylon fabric designed for bluescreen video image compositing. The backgrounds come in a collapsible Illuminator spring-ring frame measuring 6 x 7 feet. The frame allows the background to open with a flick of the wrist and easily close to a handheld circle one-third its original size. No disassembly is required and each lightweight unit weighs only six pounds. Ultimatte background fabrics are also available in lengths of 5 yards by 65 inches wide and 10 yards by 65 inches wide.

Westcott, P.O. Box 1596, Toledo, OH 43603, (419) 243-7311.



## Probe Lens

Innovision Optics' Probe II Lens System offers the same viewing perspective as the original Probe Lens, but is faster, sharper and offers a wider range of focal lengths. By incorporating a 15"-long lens barrel with a diameter of just 1.7", the system allows the operator to go over, under and even through objects. The Probe II also offers a flatter overall field and dramatically improved edge-to-edge sharpness.

Available in both 35mm film and 16mm/video versions, the Probe II features interchangeable front objectives in a variety of focal lengths. The Probe II for 35mm film work, rated at T5.6, provides focal lengths stretching from 8-75mm. The 16mm/video unit offers a range of focal lengths from 6-60mm with a speed of T2.2.

Innovision Optics, 1318 Second St., #31, Santa Monica, CA 90401, (310) 394-5510, FAX (310) 395-2941.

## Laser Pointer

Cinematography Electronics' Syncromark Laser System produces a visible laser spot which is synchronized to the shutter of a motion picture camera. The bright laser spot will not appear on film, but can be seen by the entire crew and in the camera eyepiece while the camera is running. This makes it the ideal tool for marking an actor's position and creating a focus point or reference point

for camera position, without the visual restrictions of grip tape. Two or more Syncromark Laserbeams can be crossed to mark the position of a handheld object. The system is especially helpful when focus is critical and depth of field is minimal. The system is com-

patible with all major motion picture cameras including Panavision, Arriflex, Moviecam and Aaton.

Cinematography Electronics, 31238 Via Colinas, Suite A, Westlake Village, CA 91362, (818) 706-3334, FAX (818) 706-3335.



## Apochromat for Super 16

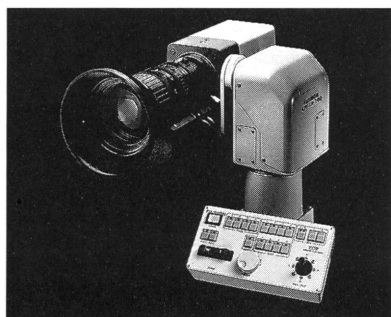
Kinoptik's 9mm F-1.5N Apochromat lens for Super 16 is equipped with smooth gears for focus and diaphragm of Arri PL and Aaton cameras, and has a 75-degree wide-angle lens formula with eight multi-coated elements. It combines overall luminosity of T1.7-2.2, sharp definition to the corners without distortion, acute contrasts, complete scale of tonal values, and apochromatic correction.

The lens weighs 1  $\frac{1}{4}$  pounds, measures 3" long and 3  $\frac{1}{8}$ " in diameter, focuses from infinity to 10", supports temperatures from 0°F (-40° on request) to 140°F, comes with built-in



lens hood and accepts 75mm diameter filters.

Heitz Service Corp., 34-11 62nd St., P.O. Box 770427, Woodside, NY 11377-0427, (718) 565-0004, FAX (718) 565-2582.



### CCD Pan and Tilt Head

Fujinon's CPT-1A-10D pan and tilt head for small CCD cameras is designed for applications such as videoconferencing and distance learning. The company offers controllers that can simultaneously command as many as 255 of the CPT-1A-10D heads over simple twisted-pair wiring, with up to 256 preset shots per head. A PC or one of the most popular multimedia command centers can control the system via 232C serial communications. The CPT-1A-10D can be operated at up to 50 meters from its power supply, and has a load capacity of nearly nine pounds. Pan range is 300 degrees, tilt range is +/- 95 degrees, and pan and tilt speed is 15 deg./sec.

Fujinon, 10 High Point Drive, Wayne, NJ 07470, (201) 633-5600, FAX (201) 533-5216.

### Guide to Filmmaking and Videography Terms

Focal Press' *Film and Video Lighting Terms and Concepts* by Richard K. Ferncase contains all of the terms that cinematographers, lighting directors, camera operators and assistants, gaffers, electricians, and grips may encounter during a typical day on the set. Explained are instruments and accessories such as the C-Stand, brute, silver bullet, and bazooka; techniques such as the "right-hand rule" and the bluescreen process; technical concepts such as the inverse square law and light color temperature; colorful phrases such as "beach it," "shake 'em up," and "martini shot"; and other popular neologisms often devised by bored grips waiting for

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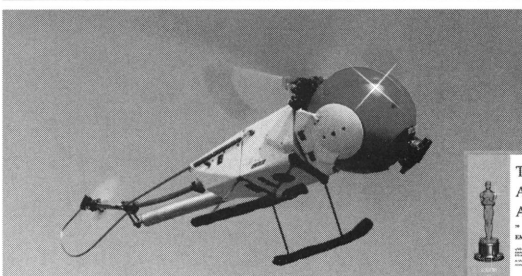
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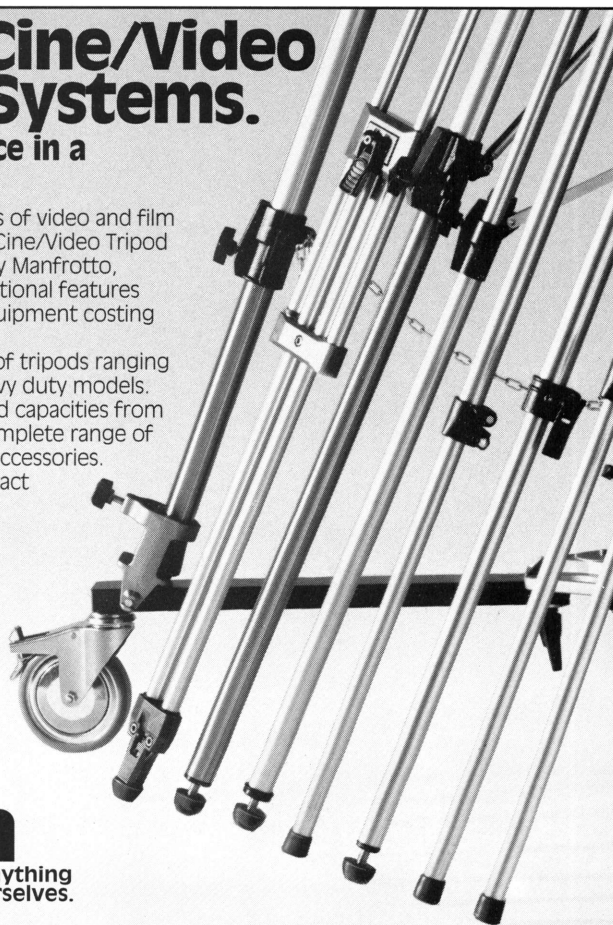
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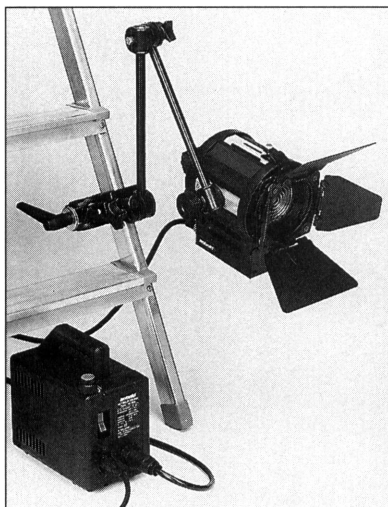
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the next shot — terms such as sputnik, quacker, branchaloris, and flying moon. Various lighting fixtures and accessories are featured in 70 photographs and illustrations.

Focal Press, (800) 366-2665, FAX (800) 446-6520.



### HMI Daylight System

Broadcast Marketing International's Kobold Fresnel 200 portable HMI daylight system is a compact, focusing AC unit incorporating fresnel lens technology for location use where light control with a smooth, even field from flood to spot is essential. The combination of single-ended arc bulb technology and square-wave electronic ballast assures flicker-free shooting with any shutter speed or frames-per-second setting.

The lamphead has a 3.7mm fresnel lens with anodized aluminum reflector. The total weight of the lamphead is only 3 pounds, a great advantage when mounting the Fresnel 200 on small light stands and scissor or mafer claps. The compact AC ballast features auto-line switching from 120 to 230 volts. It has a built-in dimmer control which will vary the light output by 40%.

Broadcast Marketing, 1515 Black Rock Turnpike, Fairfield, CT 06432, (203) 335-2003.

### Compact Director's Viewfinder

Mazilview's Mini-Vu compact director's viewfinder is made of five high-quality, coated optical glass elements that produce razor-sharp images at all focal lengths without distortion.

The Mini-Vu offers a choice of four aspect ratios (1.33:1, 1.66:1, 1.85:1, and 2.35:1). Weighing just four ounces, with a front diameter of 1.25 inches, the Mini-Vu collapses from three to two inches for ease of use and storage. The instrument is finished with a black anodized exterior and comes with additional accessories, including a convenient neck strap and a lined, leather case with belt loop for ease of use. Aspect ratio masks fit into a compact storage space behind the viewfinder's lens cap.

The Key Frame, built into the front glass element, allows the viewer to see double the ratio of the viewing image. For example, 100mm inside the key frame equals 200mm of normal viewing.

Mazilview, P.O. Box 46501, West Hollywood, CA 90046, (213) 656-7125.

### Portable Lighting Fixtures

Videssence's redesigned Vid-Lite portable location SRGB lighting fixtures are available in three options: Standard fixture only, the Studio configuration, and the Kit configuration. The Standard fixture is complete except for lamps, the Studio version includes lamps and C-clamp for pipe grid mounting, and the Kit includes the Standard fixture with lamps, 5/8-inch spud, ceiling scissor clamp, folding stand, and formed plastic carrying case.

Vid-Lites are available in a variety of forms for accent or effect lighting, as a key/fill/backlight for talent portrait lighting, for nighttime ENG illumination, or zone lighting. The fixtures range from 78 watts to 192 watts in four models: the Vid-Lite 78, 117, 120 and 200.

Videssence, 189 Airport Blvd., Burlingame, CA 94010, (415) 579-7577, FAX (415) 579-7579, videssence@aol.com.

### Lighting Scanners

Strand Lighting's Hyperbeam 1200 and 1288 scanners are digital multi-function lighting units for theater and TV that offer continuous control of intensity, position, beam shape, color, focus and special effects, using individual DMX channels for each attribute. The units complement Strand's existing moving light products.

In addition to the Hyperbeam 1200's extensive features, the full-specification Hyperbeam 1288 offers the ability for secondary color mixing (cyan, ma-

genta, yellow) and dual 9-color dichroic wheels. Hyperbeams may be controlled from any DMX-compatible lighting console, but to take full advantage of the powerful features of the scanners, Strand has created Tracker software which runs on its range of Strand 430/530 lighting consoles.

Tracker software provides a simple user interface in two ways. Firstly, dedicated controls situated on the Strand 430/530 consoles provide direct access to individual attributes. A tracker ball controls the X-Y position of the beam, and four rotary controls can be paged to control other attributes. Secondly, the Tracker software manipulates the DMX channels, which have been patched to control a scanner's attribute functions, independently from the dimming element of the control. For example, attribute channels do not absorb the valuable DMX dimmer channels from the console — they do not reduce the console's overall dimming capacity. Tracker computes attribute values in a different way, bypassing dimming conventions (which would cause unwanted movement during a fade), and at the same time allowing up to 32 attributes to reside on a single channel reference number. Thus, control of all attributes of a Hyperbeam scanner may be addressed through the entry of the single intensity channel number.

Running under Tracker software, the Strand 430/530 console submasters provide live control of any attributes loaded, with the control convention logically following the level of information held by the submaster.

Future versions of Tracker will provide a library of the most commonly available scanners and automated lights used today, and offer high-level control features such as direction inversion, group control, and automated recording options which will further assist the operator to program the moving light effects more efficiently.

Strand Lighting, 18111 South Santa Fe Ave., Rancho Dominguez, CA 90221, (310) 637-7500, FAX (310) 632-5519.

### Viewfinder

The Fotofinder system is designed to be a combination between a traditional director's viewfinder and a still camera. It incorporates the best of



both worlds by enabling the user to photograph or view images with a still camera, using motion picture frame-line markings.

The kit includes a focusing screen or ground glass with the appropriate frame-line markings, a variable focal-length conversion index strip for 35mm, 16mm, and SLR formats, and a transparency overlay with frame line markings for standard prints (i.e., 4 x 6 print in 1.85:1). The focusing screen provided with the kit is compatible with most professional still cameras, which accept interchangeable focusing screens (i.e., 35mm SLR, medium, view, long roll, and panoramic camera formats). The focal length conversion index strip is designed to work with Tamron's manual focus, 28-200mm f3.8-5.6 zoom. The conversion strip provided by the kit replaces the original zoom index supplied by Tamron. This zoom was chosen because it is small and covers a wide range of the motion picture focal lengths.

To use the Fotofinder system, the user looks through the still camera and zooms to the appropriate picture size. The conversion strip and focusing screen cover 22-165mm focal lengths for 35mm motion picture systems; 11mm-74mm focal lengths for 16mm, and 28mm-200mm for 35mm SLR. The Fotofinder will also work with pre-existing lenses and a custom field of view conversion table can be ordered.

Sacha Sarchielli, 818 Superba Ave., Venice, CA 90291, (310) 827-2966, FAX (310) 827-2966 (press #11).

### 3-D Whole-Body Scanners

Cyberware's new 3-D whole-body scanners scan the entire human body in color and 3-D in as little as 12 seconds. Each of the WB2 and WB4 scanners scans a cylindrical volume two meters high with a diameter of 1.2 meters.

To capture the intricacies of the human body in one pass, the whole-body scanners use two or four scanning instruments mounted on vertical towers. The WB4's use of four instruments improves accuracy on the sides of the body and in difficult-to-reach areas, such as under the arms. As with Cyberware's other scanners, workstation software controls all scanning and motion operations. Within seconds after completing a scan, graphics tools on the workstation

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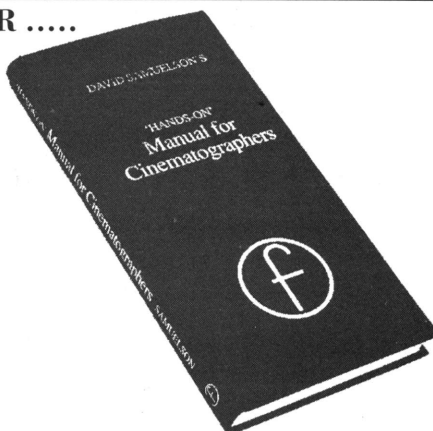


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Fax +1 310 379 5103

The WB scanners are of special interest to animators, anthropologists, and designers, who can now obtain alternatives to inaccurate models of the body based on over-simplified or stylized forms. The anthropometry group at Wright-Patterson Air Force Base acquired the first WB4 in April of this year.

### Light Stand

Matthews Studio Electronics' Magic Stand allows the user to place a light from the floor to an elevation of 13.5 feet. With just one handle, it can be tilted in any direction, 360 degrees, or articulated 180 degrees in any position.

Matthews Studio Electronics,  
(800) CE-STAND.

## Color Corrector

DaVinci's Renaissance T2T dedicated tape-to-tape color corrector processes at 8:8:8, provides primary and secondary digital color correction along with daVinci's Kilovectors, is equipped with Artisan SGI-powered, 24-bit color graphical user interface, and can be fully upgraded with any option normally available on the Renaissance 8:8:8. As the customer's needs grow, the T2T can be outfitted with Power Windows, Custom Curves, YSFX, and Enhanced I/O — right up to a full film-to-tape system if needed. The TLC Editing System by daVinci is also available.

Dynatech Video Group, 5410  
NW 33rd Ave., Suite 100, Ft. Lauderdale,  
FL 33309, (305) 484-8100, FAX (305) 486-  
7936.

## Animation Upgrade

Alias' PowerAnimator Version 7.0 has new tools for 3-D modeling, character animation, digital special effects, and plug-in support, as well as a user interface that streamlines the work flow for power users while accelerating the learning process for novices.

The new version offers ShapeShifter, which allows artists to create animated 3-D blending between multiple 3-D models using NURBS-based

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cluster technology. MotionSampler 2 now supports all major motion capture devices, including optical systems from Motion Analysis, magnetic systems from Polhemus, and the stop-motion, physical armature Monkey from DID, in addition to previous support for magnetic systems from Ascension Technology.

Alias' NURBS and polygon-based modeling system now support Booleans, a modeling tool that allows artists to easily create complex shapes, such as cutaways through multiple simultaneous surfaces. The capabilities of the Curve Networks function, which automatically builds surfaces based on user-specified topology, has been expanded with support for sculpting curves that interactively manipulate the shape of the curve network surface.

PowerAnimator's dynamics system now supports torque for objects in collision or free-fall. Version 7.0 also includes a new algorithm for collision detection that supports multiple objects simultaneously colliding, as well as support for continuous versus instantaneous collisions.

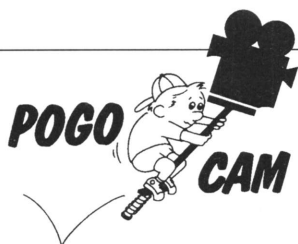
The new version also supports a new mechanism for speeding up rendering jobs by distributing them across networks of RISC workstations, and a user interface incorporates features such as floating tool palettes, a tool shelf for frequently used functions, and two-handed input.

The new OpenAlias API provides full C and C++ access to all of the information created in the Alias interactive package, including 3-D models, animations, cameras, lights and textures.

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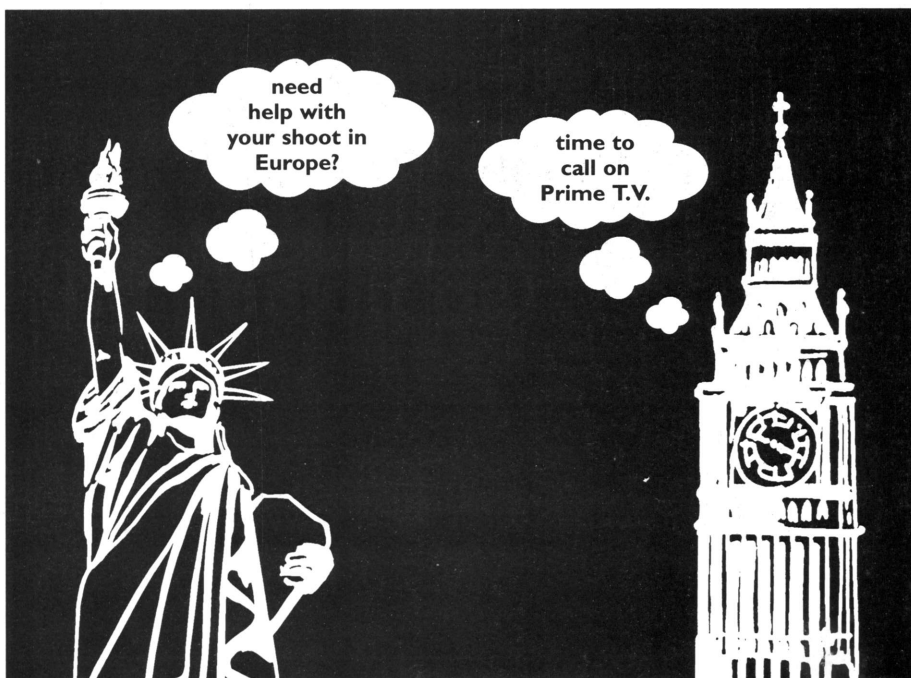
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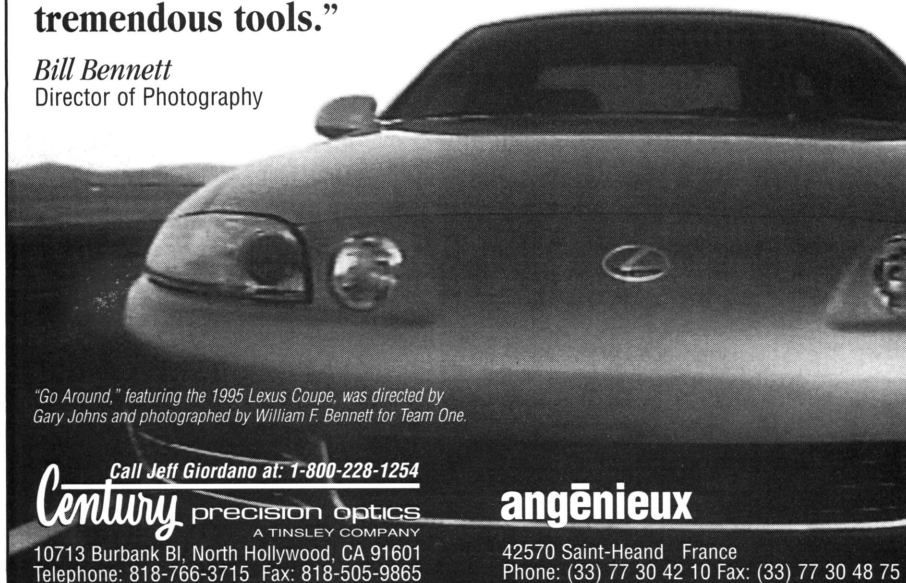
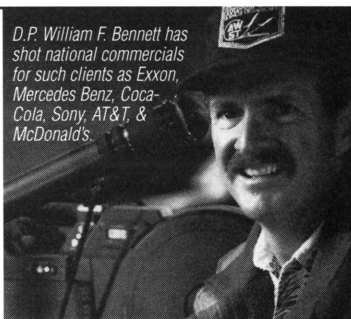
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# Montgomery Turns Personal Turmoil Into Art

by Brooke Comer

Jennifer Montgomery's feature debut, *Art for the Teachers of Children*, explores the delicate issue of underage sex and manages to come across without judgment or self-consciousness despite the controversial subject matter, which is drawn from the filmmaker's own past.

"Some people," says Montgomery, whose 1989 short *Home Avenue* deals with events surrounding her own rape at gunpoint, "have more weird things happen to them than others." *Art for the Teachers of Children* presents another of her real-life dramas; at 14, Montgomery began an affair with her dorm counselor, who photographed his students in the nude. Eventually his photos became a target for an FBI investigation, but Montgomery, who refused to testify, also refuses to mete out blame in her film. Instead, through a deliberate deadpan style, she gives viewers plenty of room to decide if blame is deserved, or if blame is even an issue.

Montgomery came to film from a painting background. "I saw people spending \$100,000 on a first film, so I didn't see film as a viable format," she explains. She was a graduate student at the San Francisco Art Institute when her father gave her a Super 8 camera, and she later signed up for a film class. "I never saw myself as a filmmaker," Montgomery admits. She held this same position even after she moved back East and became established both in the New York experimental scene and in an MFA program at Bard College, where *Teachers* was made as part of her masters thesis. "Even now I'm not so sure," she says.

*Art for the Teachers of Children*, the black-and-white 16mm film Montgomery wrote, directed and photographed, is a departure from the hand-processed Super 8 movies Montgomery

had been making. "I may go back to doing Super 8 now that this film is complete," she points out, "though it will be hard because the beauty of black-and-white is very seductive."

When Montgomery works in Super 8, she processes her own footage by hand. "Color reversal is a big part of my aesthetic," she explains. "I'm interested in the ways you can control the emulsion." She uses a Hobby Pack, a kit devised for color slide processing. "You need a tank, and you throw your film in and come up with a very homemade look. It's not that flawless, lab look. There are blotches and places where the film gets stuck or crosses over on itself. It's weird-looking, but I like it."

*Art for the Teachers of Children* was a lab-processed film. "I wasn't as interested in manipulating the image because I was teaching myself how to construct a narrative," says Montgomery. "The story was so complicated, it necessitated feature length."

Montgomery used Tri X for the many still photographs used in *Children* to depict the counselor's questionable hobby, and shot the live-action portions with "mainly Double X and Plus X for outdoor scenes. Double X is a beautiful, grainy film, a little faster than Tri X. Kodak's negative film is very forgiving in terms of exposures, which was lucky because it was my first time shooting in 16mm. In retrospect, it was pretty ridiculous for me to shoot and direct. But I was very naive."

The CP-16 documentary camera Montgomery used was heavy, and because she shot the entire film handheld, she sewed a piece of sheepskin onto the shoulder of a shirt to absorb the weight. "I still ended up with a lot of back problems that summer," she observes. Despite the pain, she appreci-

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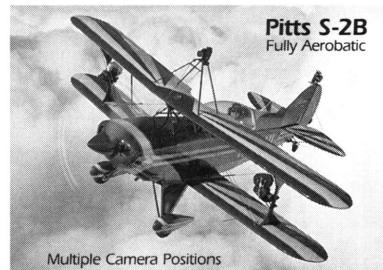
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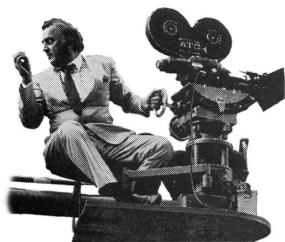
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ated the CP-16; the Bard College camera, equipped with an Angenieux zoom lens, "which I adapted to all the different situations," was available to her as part of the film program and "it let me get away with a lot. It had a nice dreamlike quality."

Bard College also provided a location for much of *Teachers*. With the exception of an interior filmed in a Park Avenue apartment in Manhattan, all the scenes were shot on campus. "Bard dormitories are mansions, and they look like old boarding schools," she explains.

"I didn't make a shot list," Montgomery adds. "Nothing was planned. I shot a lot of footage, then spent about a year and a half editing it. I was learning as I went." She learned, for example, what a cut-away is. "I didn't shoot any inserts or cut-aways for the first half of the film. I figured out what I needed when I realized I didn't have it."

Montgomery's ideas about lighting ("Basic key light — that's about it.") came from the documentary school. She brought two 500-watt lights with umbrellas that she'd used on her Super 8 films, and relied on the technical knowledge of her undergrad assistants to light interior scenes. "Students want to feel they're learning something when they work on a feature, but in this case, I was so fixated on the content, on the personalities involved, that it must have been difficult for my assistants," she says.

Montgomery rented a flatbed Slingback from MPE for a year and moved to a farm to do her editing. "I taught myself to edit and sludged through," she recalls. But she sludged very slowly and eventually moved back to Manhattan to wrap up her work. "When I was paying by the hour, suddenly it was time to end the film. At that point, to continue editing, it would have been worth it to buy a flatbed."

*Art for the Teachers of Children* ended up costing \$30,000 "to get to one release print," Montgomery reveals. Then Zeitgeist picked up the project at the Berlin Film Festival. "I was pleased, because they distribute some of my favorite films, like Guy Madden's *Careful*. I think they're very sympathetic to aesthetics. A bigger company might try to capitalize on the shock value of the material."

25



## Books In Review

by George Turner

### Shooters

by D. M. Lindekugel  
Praeger, 192 pps.,  
library binding, \$49.95

It is probable that most TV viewers aren't fully conscious of the degree of excellence achieved consistently by TV news photographers. The art has developed so gradually that it is now pretty much taken for granted. The pioneers of local newscasts some 45 years ago were mostly youngsters on approximately the same wage scale as janitors, shooting ASA 100 black & white bulk film with 16mm Bolexes and Filmos. If sound on film was desired, an Auricon Pro-600 was used — if available. Most cameramen usually souped and edited their own film at frantic speed, delivering it, "green" and jumpy, to a telecasting system which often left it scratched and battered if not in shreds. At the networks and in the larger markets, more experienced hands, veterans of the fast-vanishing theatrical newsreels and industrial films, brought their professionalism to the swaddling industry.

Cumbersome and cable-laden electronic news cameras replaced 16mm about 20 years ago. Fortunately, the equipment has been continually improved so that it is now easy to handle and has the capability to deliver superb images when operated by men and women of skill, taste and judgment. It is unfortunate, though, that the camera-persons who give us unforgettable records of the important happenings of our times, often under uncomfortable or dangerous conditions, work in virtual anonymity. Meanwhile, the "anchors," who provide smooth talk, nifty hairdos and attractively rouged faces, achieve renown or even stardom. As Oliver Hardy was wont to say, "It was ever thus."

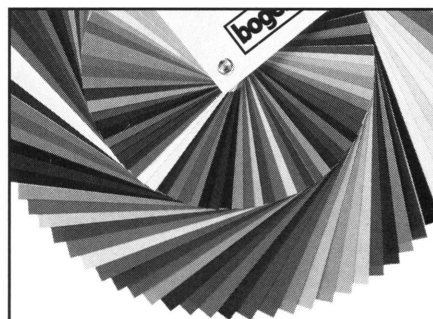
D. M. Lindekugel, Associate Professor of Sociology at Eastern Washington University, has given news photographers a long-overdue hurrah in this slim but well-packed survey. He tackles the subject from the standpoints of tech-

nical growth, methods employed in the work, the people the photographers work with, the available markets, and many other considerations. Most of this is based on interviews with professionals. The handling is sometimes a bit academic (e.g., referring to news photographers as a "subculture"), but the information is solid regarding the technology and the aesthetics of the field. Some illustrations would have made it even better.

### Script Girls

by Lizzie Francke  
British Film Institute/  
Indiana University Press,  
190 pps., cloth \$45,  
paper, \$18.95

No, continuity clerks are not the subject of this well-turned book. It's about women who write screenplays. There have been so many women involved in this exacting profession that it should come as no surprise that a substantial work has been written about them. Some have achieved considerable fame: Gene Gauntier (who wrote the 1911 version of *Ben Hur*), Frances Marion, June Mathis, Beulah Marie Dix, Virginia Van Upp, Lenore Coffee, Sonya Levien, Mary McCall, Adele Comandini, and Joan Harrison, for example. Many were favored by producers because of their sensitive handling of women's dialogue, but some were just as good with he-man stuff. Between them, Adele Buffington, Elizabeth Burbridge and Elizabeth Beecher wrote more than 100 rough-and-tumble Saturday afternoon Westerns with the likes of Ken Maynard and Buck Jones. Leigh Brackett was one of the greats of science-fiction (*The Empire Strikes Back*), mysteries (*The Big Sleep*), horror (*The Vampire's Ghost*) and Westerns (*Rio Lobo*, *El Dorado*). Nobody could write about sex more amusingly than Mae West, and it was Ruth Rose who penned the robust adventures *King Kong*, *The Son of Kong*, *She*, *Last Days of Pompeii* and *Mighty Joe Young*.



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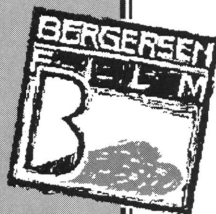
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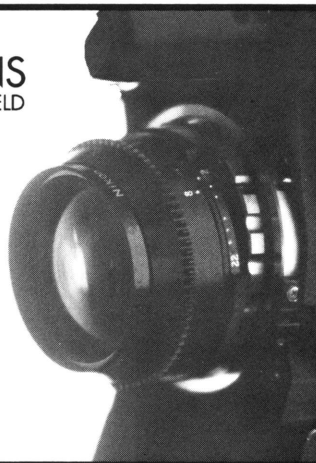


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These and scores of other screenwriters of the past receive attention during the first half of the book. Thereafter the focus is on writers of the past 30-odd years, some of whom were interviewed by the British author. A decided feminist slant dominates much of this section. Speaking candidly about the pleasures and frustrations of working in pictures are such brilliant writers (some of them also directors or producers) as Nora Ephron (*When Harry Met Sally*, *Sleepless in Seattle*), Caroline Thompson (*The Nightmare Before Christmas*), Callie Khouri (*Thelma & Louise*) and others.

The select filmography of women screenwriters is an eye-opener and one of the best aspects of this fascinating work.

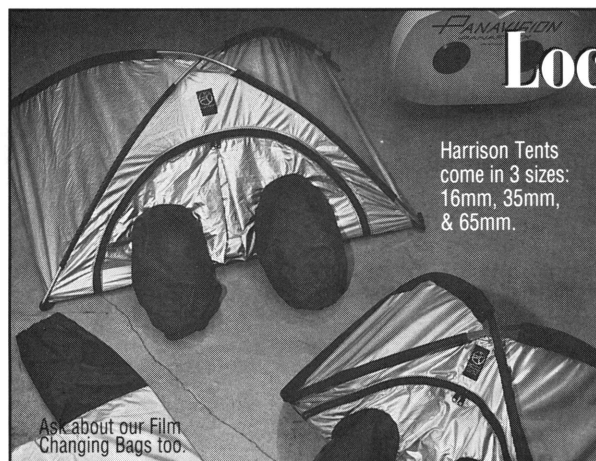
### Britain Can Take It

by Anthony Aldgate  
& Jeffrey Richards  
Edinburgh University Press,  
paper, 366 pps., \$19.50

This welcome reissue (originally published in 1984) is a fine study of significant British films made during World War II. As the war broke out, officials cited the danger of public gatherings and closed all theaters and sports arenas in Britain on September 3, 1939. But because their value as morale-builders outweighed the threat of German aggression, the cinemas reopened during the next few weeks. Things became increasingly difficult for motion picture production and exhibition after the bombs began falling. There were shortages of personnel due to military or vital industrial commitments, a scarcity of materials, and emergency taxes to be paid. In addition, the government had requisitioned most of the studio space. Yet, somehow, a golden age of British film blossomed during the war.

Beginning appropriately with the marvelous Powell-Pressburger production *49th Parallel* (*The Invaders* in the U.S.), the authors offer in-depth studies of 13 significant pictures from the period 1940-45. They include *Pimpernel Smith* (*Mr. Vin in the U.S.*), *Let George Do It*, *The Young Mr. Pitt*, *The Next of Kin*, *Went the Day Well*, *Thunder Rock*, *In Which We Serve*, *Western Approaches*, *Fires Were Started*, *Tunisian Victory*, *The Way to the Stars* and *Ships With Wings*. Highly recommended.






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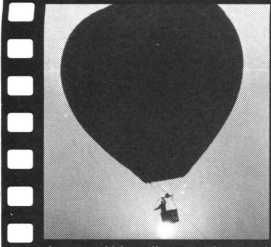
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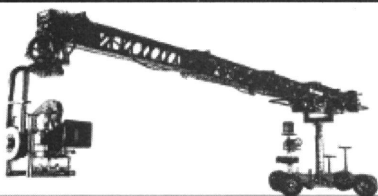


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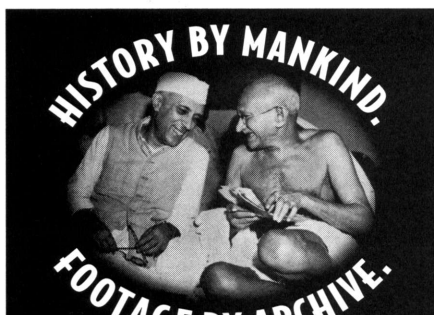
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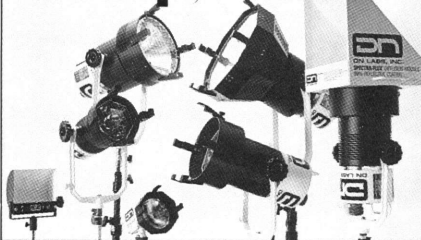
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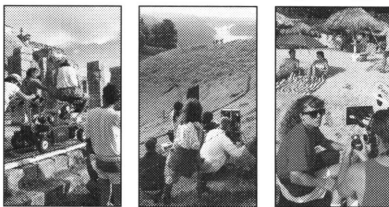
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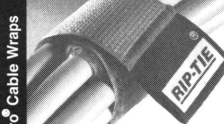
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## In Memoriam

**William Henry Cronjager, ASC**, director of photography and member of a distinguished family of cinematographers, died on May 26 in Lake Havasu City, Arizona. During his 40 years in motion pictures and television, he worked for all of the major studios.

Born in Queens, New York on March 28, 1930, he came to Los Angeles

with his parents.

His great uncles Henry and Jules Cronjager were pioneer cinematographers from the silent era. His father, Henry, and his uncle, Edward, carried on the tradition. Edward Cronjager, ASC, earned the first of his six Oscar nominations, for *Cimarron*, when he was 21.

From 1947 to 1949, William

was a shortstop for the Pittsburgh Pirates. During the Korean War he was on the U.S. Air Force baseball team, but after injuring an arm he was trained as a photographer. In 1954, he started his motion picture career as a film loader and subsequently worked at various studios as a camera assistant.

During a long stay at Twentieth Century Fox, Cronjager operated for many ASC members, including Leon Shamroy, Milton Krasner, Joe MacDonald, Leo Tover, William Mellor, Wilfred Cline and Charles G. Clarke. Some of his credits during this period are *The King and I*, *South Pacific*, *Journey to the Center of the Earth*, *Desk Set*, *State Fair*, *A Certain Smile*, *An Affair to Remember*, *Ten North Frederick*, *Threshold of Space*, *Compulsion*, *The Diary of Anne Frank*, *The Last Wagon*, *The Sound and the Fury*, *Carousel*, *The Long Hot Summer* and *Three Brave Men*.

He became a director of photography in 1965 while at Fox, where he photographed 250 episodes of their

*Peyton Place* TV series and 42 episodes of *Bracken's World*. He then signed with Universal for 26 segments of *Alias Smith and Jones*, 18 *McCloud* features and 17 *Columbo* features. He also photographed the three-hour pilot for *Kojak* with Telly Savalas, which became a long-running series for which he shot other episodes. Other series he shot at Universal include

*The Misadventures of Sheriff Lobo*, *Baretta*, *The Secret War of Jackie's Girl*, pilots for *Turnabout* and *Carwash*, and the TV features *J.O.E.* and *Michael* and *Tender Warriors*.

Cronjager photographed 32 special features for Disney, including *Run, Cougar, Run*; *Flight of the Grey Wolf*, *Seeta the Mountain Lion*, *Child of Glass*,

and *Bayou Boy*. He worked on *The Dukes of Hazzard* series at Warner Bros., *Executive Suite* for MGM and *Hart to Hart*, *Bring 'Em Back Alive*, and *Partners in Crime* for Columbia. Other series credits include *Kodiak* and *Westside Medical Center*.

He also photographed the pilot and many segments of MTM's *Hill Street Blues*, receiving an Emmy Award for Outstanding Cinematography in 1981.

Among his movies for TV are *The Return of Frank Cannon*, *The Seeding of Sarah Burns*, *The Golden Egg*, *Hungry Wives*, *Dead Man's Curve*, *Killer on Board*, *Dynasty*, and *Delta Country*. Theatrical features include *Breakheart Pass* (second unit), *How to Seduce a Woman* and *Vigilante Pass*.

Cronjager is survived by his wife, Darlene, of Thousand Oaks; two daughters, Carol Cosby and Elaine VanderBoom; and a son, Robert. Memorial services were held at Pierce Bros. Griffin Mortuary in Thousand Oaks. ☞





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## From the Clubhouse

The ASC recently inducted three new active members (Richard Bowen, Wayne Kennan, and Russell Carpenter) and an associate member (Kish Sadhvani).

Richard Bowen started his career with a stint at the Graduate Film Program at San Francisco State University and a cinematography fellowship at the American Film Institute before going freelance to shoot documentaries, industrials, and commercials in San Francisco. His first feature, 1980's *Street Music*, was a co-winner at the Sundance Film Festival. Through his continued involvement with Sundance he went on to shoot *Belizaire the Cajun*, *Stacking*, and *The Wizard of Loneliness*. In the last few years he's been shooting commercials in between features such as *Fair Game*, *Article 99*, *The Little Rascals*, *Major Payne*, *Pure Country*, and *Head Above Water*.

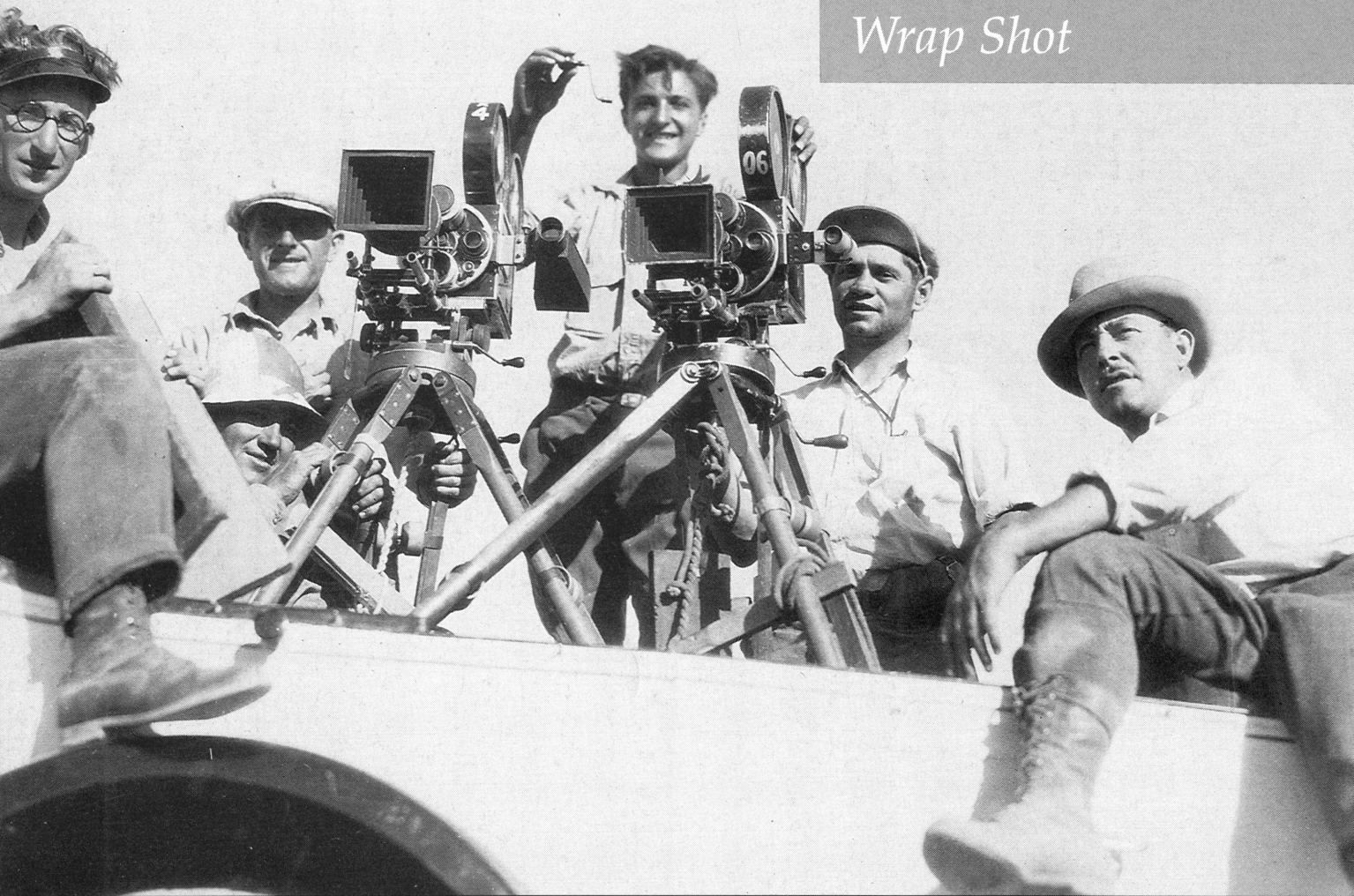
At age 12 Wayne Kennan bought a Kodak Brownie 8mm movie camera with a friend, which put him on a path that led him to a telecommunications and film program at San Diego State University. During college he worked at the local PBS station, and after graduation at various small film companies and assisting local cinematographers on commercials. In 1975 his work on a low-budget feature as an operator got him into the union, and after making industrials for General Dynamics for a year and shooting a documentary in Spain, he became an operator at Paramount under such veterans as Meredith Nicholson, ASC and Lester Shorr, ASC. He became a director of photography when George LaFontaine, ASC recommended him as his replacement on *Newhart*. Other credits include the series *Seinfeld*, *Get a Life*, *Uncle Buck*, the feature *For Better or Worse*, and pilots for *The Single*

*Guy*, *The Naked Truth*, *Wild Oats*, *The Second Half*, *Ruth Harper*, *The Rock*, and *City*.

Russell Carpenter came to feature films from a background in public television, where he worked on many low-budget educational programs with scientific, artistic, or cultural themes. His feature credits include *The Indian in the Cupboard*, *True Lies*, *Hard Target*, *The Lawnmower Man*, *Critters II*, *Solar Crisis*, and the 70mm anamorphic Kennedy Space Center attraction *Journey to a Distant Planet*. Television credits include four episodes of *The Wonder Years*, the Rolling Stones' 20th Anniversary Special, and PBS' *Look Away: The Emancipation of Mary Todd Lincoln*. Documentaries include *The La Jolla Chamber Orchestra: Haydn's Bird Concerto*, *The Real Rookies*, and PBS' *American Indian Artists and William Alexander: A Special Portrait*.

Associate member Kish Sadhvani, president of Kish Optics, began working in 1966 at Rank Taylor Hobson in Leicester, England, where he worked on the design team of the Cooke Varotal 20-100 5:1 zoom lens. As head of design and technical marketing of motion picture optical products, he worked on the adaptation of the 10:1 Cooke Cine Varotal zoom for motion pictures, the Cooke VaroKinetel for 16mm format and the 3:1 Cooke Varopanchro 20-60mm. Sadhvani moved to the U.S. as product manager for television and motion picture products at Rank Precision Industries, and in 1988 he established his own company, which specializes in the design, manufacturing and marketing of lenses, attachments, and accessories, with particular attention to anamorphic optics.





## ASC Presidents in the Making

THIS PHOTOGRAPH, TAKEN IN THE mid-1920s during the filming of a Buck Jones Western in the Mojave Desert, captures the timeless camaraderie of camera crews everywhere. Of course, the crew in this shot is of particular note, as two of its members used their hands-on experience to become presidents of the American Society of Cinematographers.

At the center of the frame, holding a camera crank, is a youthful Stanley Cortez, who went on to glory as cinematographer on such classics as *The Magnificent Ambersons*, *The Three Faces of Eve*, *Man on the Eiffel Tower* and *The Night of the Hunter*. Next to him at frame right, directly be-

hind the second camera, is director of photography Sol Halprin, whose illustrious career in motion pictures included a long stint as the head of Fox's camera department. Halprin later served as ASC President from 1966-68 and 1970-72, while Cortez helmed the organization from 1985-86.

At far right in the frame is director Scotty Dunlap, known for his deft handling of Western pictures. Standing to the left of Cortez is another esteemed ASC member, Reginald Lyons, whose cinematography credits include the 1921 version of *Black Beauty*. (AC was unable to identify the two assistants at the far left side of the frame.) Lyons served as

lead cinematographer on the picture; as second cameraman, Halprin was responsible for shooting the film's foreign release negative, which would then be shipped overseas and printed there to save costs. Cortez served as Halprin's assistant on the shoot.

The crew filmed the Western show with two Bell & Howell cameras rolling simultaneously. When this photo was taken, optical systems had not yet been pioneered, and neither had camera cars: the cameras are mounted atop a Packard whose top has been removed to facilitate filming.

—SP



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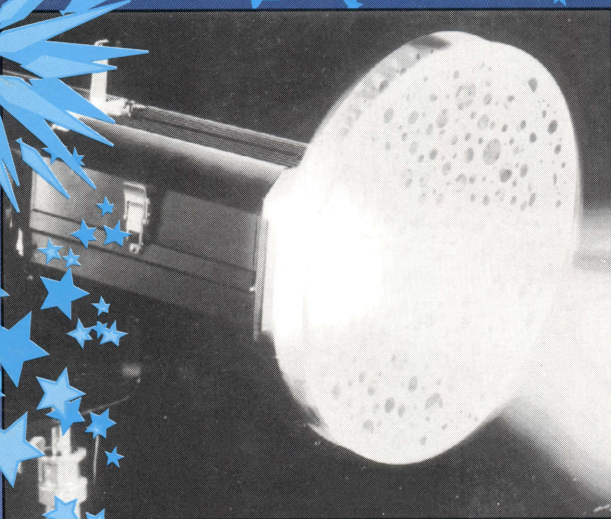
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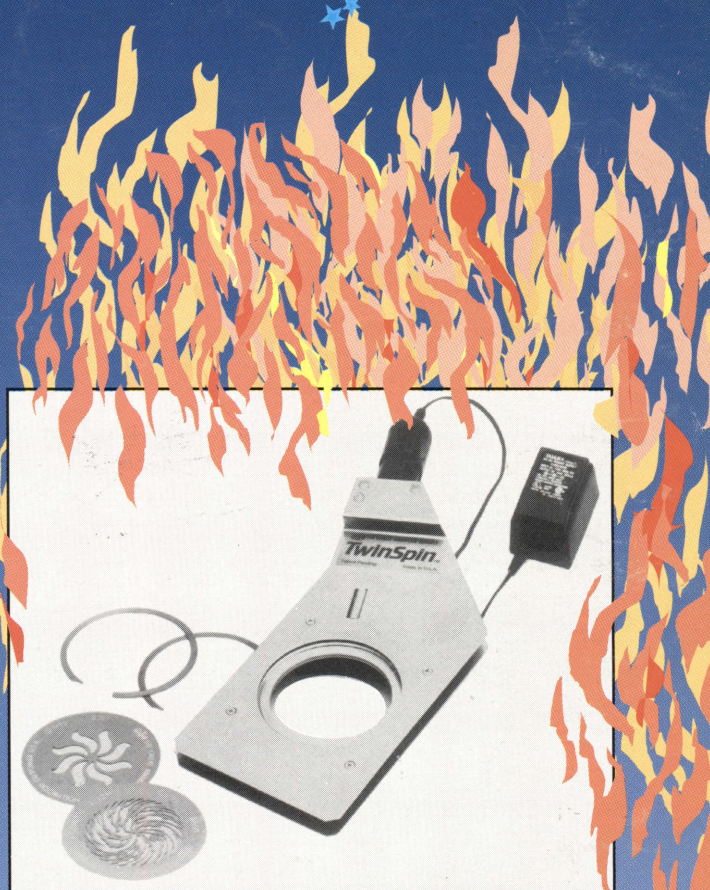


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